Abstract

Title: **INTEREST GROUP POLITICS OVER EXCHANGE RATE VALUATION IN ASIAN COUNTRIES**

Wen Jin Yuan, Ph.D., 2014

Directed by: **Professor I. M. 'Mac' Destler, School of Public Policy**

Few empirical researches have analyzed on the role of different interest groups in currency relations. Hence, the purpose of this thesis is to fill the theory gap and address the following question: how the political power of a country's manufacturing sector as well as the intensification of a country's control over its interest rate regime would influence the country's exchange rate decision making.

This thesis uses a mixture of methods: two regression models followed by one case study of China. The OLS regression model analyzes the determinants of currency undervaluation through examining a panel dataset of eleven Asian countries from 1974 to 2005, and finds that the manufacturing sector of a country is more likely to favor an undervalued exchange rate if the country adopts intensified interest rate control as a policy tool. The duration model also analyzes eleven Asian countries who initially

adopts a fixed exchange rate regime from 1974 to 2005, and finds that for countries with fixed exchange rate regimes, when the country is actively involved in international trade, the larger the manufacturing sector, the longer the fixed exchange rate regime arrangement will endure. Moreover, for countries with fixed exchange rate regimes, the more intensely a country manipulates its interest rates, and the more intensely a country controls its capital flows, the longer the fixed exchange rate regime arrangement will endure. The China case study mainly analyzes China's manufacturing sector and state-owned banks' lobbying power and practice towards exchange rate decision making from 1994 to 2010. The case study describes, in rich detail, the interest group influence over the exchange rate decision-making process in a typical non-democratic context, and proves that in non-democratic regimes, interest groups still have various ways to influence the government's exchange rate decision-making process.

INTEREST GROUP POLITICS OVER EXCHANGE RATE VALUATION IN ASIAN COUNTRIES

By

Wen Jin Yuan

Dissertation submitted to the Faculty of the Graduate School of the
University of Maryland, College Park, in partial fulfillment
of the requirements for the degree of
Doctor of Philosophy
2014

Advisory Committee:
Professor I. M. 'Mac' Destler, Chair
Professor Phillip L. Swagel
Professor Margaret M. Pearson
Professor Randall Henning
Assistant Professor Todd Allee

Table of Contents

Chapter 1: Introduction

1.1 Purpose of the Study

Within the community of international political economy, there is a wide spread notion that tradable sectors generally prefer an undervalued exchange rate that makes their products more competitive on the international market. For instance, Frieden (1991) states that producers in the trabable sectors prefer an undervalued exchange rate that makes their products more competitive in the home and foreign markets. Similarly, Henning (1994) suggests that the industrial sector's preference for an undervalued exchange is "unambiguous, [and] held with great intensity." According to a simple mechanism laid out by Walter (2008) on how preferences translate into politics: the policy outcome would depend on the distribution of politically influential proponents and opponents in favor or against a specific economic policy initiative – such as currency under/overvaluation. Based on this mechanism and the tradable sectors' preference over currency undervaluation, the large size of the manufacturing sectors in Asian countries might explain why the exchange rates are usually undervalued in this region. However, there is a key political puzzle here that remains to be addressed: Why some Asian countries with a relatively large manufacturing sector choose to maintain an overvalued exchange rate. For instance, In the early 1990s, Indonesia and Malaysia, which both possess large manufacturing sectors, which is around 25 percent of their total GDP, had their exchange rates overvalued until 1997. Therefore, though theories of international political economy (IPE) suggest that different societal actors' policy preferences is crucial for the adoption of any given exchange rate policy, it seems that countries with large manufacturing sectors would not necessarily adopt an undervalued exchange rate.

Moreover, research also finds that different interest groups in a nation have varying preferences regarding exchange rate regime choices. Frieden (1991) argues that international traders, investors and the producers of export- oriented tradable goods tend to suffer from exchange market volatility, and will therefore prefer stable exchange rates. By contrast, groups whose economic activity is limited to the domestic economy, such as non-tradable producers and import competing sectors, tend to favor the national monetary policy autonomy made possible by a floating exchange rate regime. Rose (2000) also finds that nations with a long-term peg appear to trade much more than comparable countries with a long-term floating exchange rate regime. However, empirical analysis on the relationship between the size of the manufacturing sector and the type of exchange rate regimes generates contradictory findings. Some find that countries with large manufacturing sectors are more likely to adopt fixed exchange rate regimes, while others find the complete opposite result –- the larger the manufacturing sector, the less likely the country will fix its exchange rate regime.

Hence, the purpose of this thesis is to fill the theory gap and address the following question: how the political power of a country's manufacturing sector as well as the intensification of a country's control over its interest rate regime would influence the country's exchange rate decision making. This thesis finds that large manufacturing sectors, stronger interest rate control and more intensified capital account restriction would render a longer duration of the fixed exchange rate regimes. Meanwhile, a larger manufacturing sector would result in a more intensified currency undervaluation only when a country's interest rate control is strong.

1.2 Contributions to the Field

The major findings in this thesis are important because they not only add theoretical contributions to the current literature but also have significant policy implications. Theoretically, in the field of international political economy (IPE), one large area of work examines national policies towards the international economy, and the understanding of the domestic politics of the international political economy requires careful analysis of the different economic interests at stake and how they work their way through to influence the government's economic policy decision-making process (Frieden and Martin, 2003). One relatively well-developed empirical research area is the interest groups' influence over a country's trade policy preferences. Many scholars have argued that interest groups serve as an important player in shaping a country's trading preferences. For instance, Busch and Milner (1994) argue that export firms which possess access to domestic policy makers and transnational firms that need improved access to subsidiaries will argue for trade liberalization. Solingen (1997) suggests that domestic producers who are unable to compete with imported products, trade unions, those tied to the military-industrial complex, and intellectuals and national activists will be against trade liberalization. Aggarwal and Fogarty (2004) note that civil society groups, such as environmentalists and human rights activists, can be influential in opposing inter-regionalism. Moreover, by analyzing a comprehensive case study on the process of signing the North America Free Trade Agreement (NAFTA), Meyer (1998) proves that as strong interest groups opposing to signing NAFTA, U.S. labor unions and environmental groups did have their leverages in the domestic level bargaining process and therefore, added additional roadblocks to the NAFTA negotiation process. Furthermore, by using public opinion surveys, scholars also have explored, through

quantitative empirical analysis, both interest group and mass public preferences about European monetary integration in general (Dalton and Eichenberg, 1993, Gabel, 1998), and about trade policy in particular (Scheve and Slaughter, 2001a, b). However, empirical research on the determinants of interest group preferences over the choice of exchange rate regime is not well developed. Hence, the analysis in this thesis will add a contribution to the existing literature in that it will illustrate how different interest groups would exert their influences over the country's choice of exchange rate regimes.

Secondly, though there are many literatures on the interest group influence over the economic policy decision-making process in democratic regimes, domestic political theories, in general, underestimate the degree to which interest groups influence the economic policy decision-making process in nondemocratic regimes. Conventional wisdom holds that the preferences of societal actors have little, if no impact, over the public policy making process in autocracies (Lake, 1992; Fearon, 1994). In this thesis, through analyzing many non-democratic regimes, such as Singapore, China and Vietnam in the regression analysis as well as doing a China case study, the thesis adds a theoretical contribution on how interest groups would influence the economic policy decision-making process, in particular the exchange rate decision making process, in autocracies. Finally, the analysis in this thesis also has significant policy implications since knowing different interest groups' preferences over the exchange rate policy could offer guidance to policy-makers on how to balance different domestic political interests so as to reach their policy goals.

The thesis uses a mixture of methods: I first use the OLS regression analysis and duration model analysis to analyze 11 Asian countries from 1974 to 2005. I then mainly

analyze a comprehensive China case, looking at China's manufacturing sector and state-owned banks' lobbying power and practice, as well as different Ministries' preferences towards the exchange rate decision making in 1997, 2005, and 2010. The analysis of the case study is mainly based on the following informational sources: official government and central bank documents which are available online; official statistics; interviews of scholars who also serve as informal policy advisers to the central and local government; interviews of research staff who once worked at the Central Bank of China, and at the China Banking Regulatory Commission, as well as bankers in different commercial banks; newspapers and online articles and reports; and existing literature. Since interviewees prefer to remain anonymous, interviews are not cited by name. However, information from other sources apart from interview are all officially cited.

In the following chapters, I begin by first reviewing the theoretical and empirical work over the political economy of exchange rate regimes. I then lay out the theoretical hypotheses on how the manufacturing as well as the banking sector of a country would influence the country's exchange rate decision making. Finally, I discuss the empirical results of the two regression models as well as the China case study, including the theoretical and practical implications.

Chapter 2: Literature Review

This chapter reviews what has been written by scholars and practitioners on the political economy of exchange rate regimes. The analytical heart of the literature on the political economy of exchange rates is the Mundell-Fleming model and its famous implications that countries can have at most two out of three policy goals: exchange rate stability, full capital mobility, or domestic monetary policy autonomy (Fleming 1962; Mundell, 1960, Singer, 2010). Without capital mobility, countries can sustain an independent monetary policy that differs from the rest of the world while maintaining a fixed exchange rate regime. However, under a fixed exchange rate regime, with capital mobility, a discrepancy between the domestic and foreign interest rate will result in the capital flowing in the direction of higher return and render the monetary policy ineffective. For instance, if a country adopts an expansionary monetary policy, with capital mobility, reduced domestic interest rate will result in capital flowing out of the country seeking better investment returns, and the interest rate will eventually be bid back to the world level, rendering the monetary policy intervention ineffective. Therefore, empirically, scholars have found that a government's choice of limiting capital mobility could allow the government to reap the benefits of fixed exchange rates without sacrificing domestic monetary policy autonomy (Bernhard and Leblang, 1999, Broz 2002). Financial openness, by stark contrast, increases the level of speculative pressures enabled by capital mobility, and results in the adoption of the fixed exchange rate regime less attractive (Agenor, 2001, Eichengreen, 1999, Obsfeld and Rogoff, 1995).

The Mundell-Fleming conditions imply that when making exchange rate policy decisions, governments face a trade-off between credibility and flexibility (Bearce 2007,

Bernhard, Broz, and Clark, 2002; Frankel 1999, Singer, 2010). Fixed exchange rate regimes increases credibility by decreasing the transaction costs for investors, traders and other groups exposed to the international market (Frieden, 2002). Pegging one country's currency to another credible currency, such as the U.S Dollar, also works as a credibility enhancing feature to curb inflation. For instance, Broz (2002) notes that the transparency of a currency peg substitutes for political system transparency to assist in engendering low inflation expectations since "by pegging, the government makes an easily verifiable commitment and bears the political cost when it breaks the commitment". Guisinger and Singer (2010) further argue that in the realm of exchange rate policy, government proclamations can be critical in signaling economic policy intentions. By analyzing data on 110 developed and developing countries from 1974 to 2004, the two authors find that governments that adopt de facto fixed exchange rates will experience less inflation when they back up their actions with official declarations, and second, that governments that abide by their commitments – as demonstrated by a history of following through on their public declarations of a fixed exchange rate regime – will establish greater inflation fighting credibility. Fluctuations in the exchange rate could also affect foreign-currency denominated balance sheet positions (Walter, 2008). Reducing or eliminating exchange rate fluctuations could stabilize the real value of debts denominated in foreign currencies and therefore foster international borrowing (Calvo and Reinhart 2002; Walter 2008, Singer 2010). However, on the other hand, extremely rigid currency peg could make the country vulnerable to speculative attacks, particularly when the country has extremely awful economic fundamentals or does not possess a large amount of foreign reserves to

defend the peg, therefore undermining the currency stability the fixed exchange rate regime intends to offer (Obstfeld and Rogoff, 1995, Singer, 2010).

By stark contrast, flexible exchange rate regimes, in general, provides the government with more policy room and flexibility. Under the flexible exchange rate, central banks enjoy more freedom to influence the domestic money supply, interest rates and inflation. The exchange rate, therefore, becomes a means, rather than an end in itself. With the monetary policy being effective under the floating exchange rate regime, central banks can more freely react to changes in aggregate demand, output and prices in order to achieve internal balance. However, this flexibility comes at a cost of lowering policy credibility, since without a transparent target for the exchange rate, if the political system and the government's policy decision-making process is also not transparent, then the public will not have confidence over the policy makers' commitments to maintain stable prices (Broz, 2002).

A political economy model of the government's exchange rate decision-making could be, in a large part, derived from the abovementioned trade-offs. The basic model starts with the presumption that political leaders respond to domestic, and sometimes international political pressures from interest groups, and that these pressures are broadly mediates through and constrained by political institutions (Frieden and Martin 2003, Singer 2010). Scholars of the International Political Economy (IPE) therefore have developed theoretical arguments on interest group influence over the exchange rate decision making. For instance, Frieden (1991) states that groups involved in foreign trade and investment should favor a fixed exchange rate regime while non-tradable producers, import competing sectors, should prefer a floating regime, and concludes that

scholars "can expect multinational firms, international investors more generally, and internationally oriented producers of tradable goods to be more sympathetic to currency stability, while producers in the nontradable sector…to be most interested in national monetary policy autonomy". Frieden also notes that from a differential distributional standpoint, the lower (more depreciated) the exchange rate, the higher is the price of tradable goods relative to nontradable goods. The mechanism would help producers of tradable goods --whose output prices rise more than the prices of the nontradable inputs they use, and to hurt producers of nontradable goods. Producers in the tradables sector therefore favor a weaker currency that makes their products more competitive in home and foreign markets. In contrast, producers in the nontradables sector generally benefit from currency appreciation, which raises the domestic relative price of their products and lowers the domestic relative price of tradable goods. Broz and Frieden (2001) further argue that as the strongest beneficiaries of undervalued currencies, agro-exporters are an important force against overvaluation. Singer (2010) argues that when international trade occurs between developing countries with limited capacities to hedge exchange rate risk, manufacturers and other exporters would prefer the currency stability and lower transaction costs afforded by a fixed exchange rate.

From the perspective of empirical analysis, most recently by analyzing the data on de facto and de jure exchange rate behavior for 21 countries during the period from 1992 to 2004, Frieden, Leblang, and Valev (2009) find that internationally exposed sectors prefer a fixed rate to provide currency stability. When it comes to the interaction between private actors' preferences over particular exchange rate regimes and its interaction with political institutions, Walter (2005) analyzes four different case studies

of currency crises in Hong Kong, South Korea, Thailand and Taiwan, and demonstrate that society preferences indeed affect policy outcomes: exchange rate stability was maintained in countries where private actors' vulnerabilities to depreciation were high. However, when pressure intensified, exchange rates were subsequently depreciated in countries where vulnerabilities to a monetary tightening exceeded the potential costs of depreciation. By analyzing four different cases of Taiwan, Latvia, United Kingdom and South Korea, Walter and Willett (2012) further argue that the interaction of distributional concerns, cognitive limitations, time consistency problems and institutional structures together can keep governments from implementing the economically optimal policy response in a currency crisis. When a currency crisis hits, the political incentives to initially delay devaluations can be exacerbated by institutions that either increase the size of interest groups vulnerable to depreciation or offer policy makers incentives to adopt a short time-horizon. However, once market pressures become strong, the politically salient alternative to not depreciating becomes raising interest rates rather than just running down reserves. Finally, as the coalition of devaluation proponents grows, the likelihood of devaluation increases.

Researchers have also found that the choice of political systems could affect the choice of different exchange rate regimes. Leblang (1999), Broz (2002), Bearce and Hallerberg (2011) all find that non-democracies are more likely to adopt a fixed exchange rate regime. Bernhard and Leblang (1999) and Leblang (1999) note that the reason why democracies are more likely to adopt a floating exchange rate regime is because leaders in democratic countries face pressures from their constituents to maintain monetary policy autonomy for domestic adjustment purposes. On the other hand, Broz and Frieden

(2006) notes that non-democracies peg probably because they are more insulated from the concerns of domestic constituencies, and bear lower political costs of adjusting the economy to the peg. Broz (2002) further argues that the tentative reason why non-democracies are more likely to adopt a fixed exchange rate regime is because the simplicity and clarity of an exchange-rate target make it a transparent commitment since the interested public can directly monitor broken promises by the government. This transparency, in turn, as Broz notes, enables the public to hold the government directly accountable if it abandons the peg. Indeed, Cooper (1971) find that a devaluation roughly doubled the chance that a government would fall. Therefore, the transparency of a peg serves as a substitute for political system transparency and lower further inflation expectations.

As it comes to the relationship between the type of exchange rate regimes and governments' financial policies, Clark and Hallerberg (2000) and Hallerberg (2002) both examine the trade-offs between governments' fiscal and monetary policies and their relationship with the type of currency regimes. They argue that when capital is fully mobile, since the monetary policy would become ineffective under a fixed exchange rate regime, the fixed exchange rate regime will render the fiscal policy being very effective, according to the Mundell-Fleming framework. Governments therefore are more likely to adopt the fixed exchange rate regime when fiscal policy is an effective tool to stimulate the economy to win the incumbent government more electoral votes.

When it comes to the empirical work on how a country's domestic financial system affects its choice of exchange rate regime, Eichengreen (2007) finds that countries with high savings rate tend to have their exchange rate undervalued because it means that

government spending will not appreciate the real exchange rate. Steinberg (2012) further notes that developing countries with a higher state ownership of theirs banking systems would extend a stronger support for undervalued exchange rates. However, up till now there are few empirical analysis on how a country's manufacturing sector as well as the government's interest rate control policy would work together to influence the government's exchange rate decision-making process. Hence, this thesis aims to fill the knowledge gap of the current literature by mapping out the preferences of the manufacturing as well as the banking sectors in Asian countries over exchange rate policies and how their policy preferences translate into policy outcomes.

Chapter 3: Theory and Hypotheses

3.1 Sectoral Preferences Over Currency Under/Overvaluation

As was indicated in Chapter One, based on Frieden (1991), producers in the trabable sectors prefer an undervalued exchange rate that makes their products more competitive in the home and foreign markets. Similarly, Henning (1994) also suggests that industrial sectors, in general, would prefer an undervalued exchange rate. However, a key political puzzle remains: Why some Asian countries with a relatively large manufacturing sector choose to maintain an overvalued exchange rate. For instance, In the early 1990s, Indonesia and Malaysia, which both possess large manufacturing sectors, which is around 25 percent of their total GDP, had their exchange rates overvalued until 1997. Therefore, though theories of international political economy (IPE) suggest that different societal actors' policy preferences is crucial for the adoption of any given exchange rate policy, it seems that countries with large manufacturing sectors would not necessarily adopt an undervalued exchange rate.

Scholars generally view the manufacturing sector, which is an archetypal tradable industry[1], as a firm supporter for undervalued exchange rates (Blomberg et al 2005; Frieden 2002; Henning 1994, and Frieden 1991). However, the manufacturing sector's support towards currency undervaluation could be conditional upon other factors (Steinberg, 2012). While manufacturing firms will benefit from an undervalued exchange rate through increased export competitiveness, the shift to an undervalued

[1] Steinberg (2012) has a detailed discussion on why the manufacturing sector is typically seen as more important than agriculture, another tradable industry, in exchange rate politics. First, in many countries, high transportation costs reduce international trade in agricultural goods, rendering agriculture a de facto nontradable industry (Broz et al 2008). Second, even in those cases where agriculture is tradable, agricultural producers tend to exert less political influence than manufacturing producers because farmers are spread across the countryside, and face formidable barriers to collective action. Hence, here the manufacturing sector is regarded as an archetypal tradable sector.

exchange rate, typically achieved by devaluing the nominal exchange rate of a country, raises manufacturing firms' expenses for three reasons: First, a shift to an undervalued exchange rate makes imported goods more expensive (Kessler (1998), Broz and Frieden(2001), Helleiner (2005), Steinberg (2012))and puts upward pressure on the domestic inflation rate (Walter, 2008). These imports would include inputs to domestic manufacturers. Hence, manufacturing firms that strongly rely upon internationally tradable inputs (Walter, 2008) will be hurt. A U.S. automaker, for example, might use components such as engines that are made in Japan. A shift towards an undervalued currency will result in intermediary imports – such as engines that are made in Japan, relative more expensive, and raises the production costs of manufacturing firms. Second, manufacturing firms with cross-border transactions will typically exhibit items denominated in foreign currencies in its balance sheet (Walter, 2008). Since the international financial markets are integrated, many manufacturing firms borrow funds on the international capital market, either because the international interest rates are lower than the domestic interest rates, or simply because these manufacturing firms are unable to borrow in their own currency (Eichengreen and Hausmann 2005, Walter 2008). Their balance sheet therefore would contain a sizable portion of foreign-currency-denominated liabilities. Since firms have to repay these loans in foreign currency, a shift to an undervalued exchange rate will enlarge the domestic currency value of foreign debts with respect to the firms' assets denominated in domestic currencies (Steinberg, 2012). All things being equal, manufacturing firms, particularly those with a large portion of foreign-currency-denominated liabilities, will favor currency overvaluation to make their foreign liabilities cheaper to repay. If the country already adopts an undervalued

exchange rate, manufacturing firms with a large foreign debt will also lobby the government for an eventual appreciation to reduce their foreign debt burden.

Finally, sustaining an undervalued exchange rate will raise the domestic financing costs of manufacturing industries (Steinberg, 2012). This is because in order to maintain an undervalued exchange rate, central banks usually implement sterilized foreign exchange interventions, which means that they purchase extra foreign currencies on the market and place them on their balance sheet, while selling domestic bonds at the same time to curb inflation. As sterilization operations continue, central banks have to pay increasingly high interest rates to attract the domestic population to purchase these bonds, pushing up the short-term market-level interest rates ((Frankel (1997), Reinhart (1998), Goldstein and Lardy (2009), Steinberg (2012)). Without government intervention to offer a below-the-market-level target lending rate to the manufacturing sector, the domestic financing costs of firms in the manufacturing sector will in turn rise dramatically, increasing the overall expenses of the manufacturing sector.

Since currency undervaluation simultaneously increases manufacturing firms' revenues as well as their expenses, the manufacturing sector's support of an undervalued exchange rate could well depend on whether policy makers could adopt some compensatory policies to reduce their business costs. For instance, if the policy makers could adopt the interest rate control policy and set regulations, asking the commercial banks of the nation to offer preferential lending rates (acting as a credit subsidy) to firms in the manufacturing sector, just as China has done for years, then the manufacturing sector would be more likely to extend their support of currency undervaluation, holding all else constant.

The reason why interest rate control would be an effective tool to augment the manufacturing sector's favor towards currency undervaluation is that first, it would enable state leaders to offer preferential lending rates to the manufacturing sector.[2] In many developing countries, bank interest rates are frequently controlled by the government at levels which result in excess demand for bank credit, while the available supply of credit is allocated to those sectors deemed important to the country's overall development strategy (Dee, 1984), which renders some specific sectors being able to receive below-the market-level interest rates. This preferential interest rate essentially acts as a credit subsidy to those sectors. For instance, in the 1970s and the beginning of 1980s, the South Korean government offers cheap credit to the export sector for years through the interest rate control policy (Dee, 1984). In 1971 to 1972, South Korea's manufacturing sector was initially strongly opposed to currency devaluation since many manufacturing firms borrow on the international capital market and possess a large amount of foreign-currency-denominated debts, and a currency devaluation would increase their foreign debt burdens. However, Korean President Park Chung Hee was able to quickly address the problem and mitigate the concerns of manufacturing firms over currency devaluation by issuing a Decree that reduced firms' interest payments—a measure that clearly could not have been made without the government's control over the whole interest rate regime (Kohli 2004, Woo 1991, Steinberg 2012). Similarly, the Chinese government has been offering preferential lending rates to the manufacturing sector for years since the beginning of 1990s. The cheap credits channeled to the

[2] Steinberg (2012) argues that a higher percent of state ownership in the banking system will increase the manufacturing sector's support towards currency undervaluation. However, strong state ownership in the banking system could result from a legacy of a planned economy system, while a high level of interest rate control is a government policy initiative.

manufacturing sector effectively reduces the production costs, which directly contributes to China's export boom in the 1990s and 2000s.

Moreover, as a policy tool, interest rate control could facilitate medium to long term investment towards the manufacturing sector, and hence enhance the production capacity of the manufacturing sector. Finally, as the interest rate policy and the exchange rate policy are set by the same agency – the central bank, which naturally links these two policies, the policy instrument of interest rate control can be targeted more narrowly and selectively towards specific sectors than most other policy tools, such as tax subsidies to manufacturing firms. Hence, interest rate control is a crucial policy instrument because it gives policymakers the capacity to increase the manufacturing sector's favor towards currency undervaluation. Therefore, this thesis anticipates that manufacturing sectors should favor more towards the exchange rate undervaluation if the country also adopts the policy of interest rate control as an effective compensatory policy towards the manufacturing sector.

The theory in section 3.1 leads to the following hypothesis:

1a. The manufacturing sector of a country is more likely to favor an undervalued exchange rate if the country adopts intensified interest rate control as a policy tool.

3.2 From Preferences to Policy Outcomes

Apart from the tradable sector's preference towards currency under/overvaluation, Frieden (1991) also maps out the tradable sector's preference towards different types of exchange rate regimes. According to his theoretical analysis, the producers of export-

oriented tradable goods tend to suffer from exchange rate market volatility, since it makes their business riskier. Hence, the tradable sector will prefer a relatively fixed exchange rate regime, holding all else constant. However, Frieden (1991)'s paper does not offer any empirical analysis to test his theory. Most recently, scholars in the field of IPE have done some empirical analysis trying to find out the relationship between the size of the tradable sectors, such as the size of the manufacturing sector, and its relationship to the type of exchange rate regimes. Nevertheless, these empirical studies have generated results contradictory to each other. For instance, by analyzing the data of de facto exchange rate regimes for up to 74 countries from 1982 to 2006, Singer (2010) find that countries with large manufacturing sectors are more likely to adopt fixed exchange rate regimes, which is theoretically consistent with the notion stated by Frieden (1991) that tradable sectors would desire stable currency relations with their foreign consumers. Frieden, Leblang and Valev (2009), however, find different results. By analyzing 21 transition economies during the period from 1992 to 2004, the three scholars find that the larger the manufacturing sector, the less likely the government will fix the exchange rate. With the abovementioned contradictory empirical results, by far existing theory and empirical analysis fail to explain why some countries with a large manufacturing sector are able to maintain the fixed exchange rate regime for years, while some other countries with a large manufacturing sector switch to a floating exchange rate regime. For instance, China possesses a fairly large manufacturing sector accounting for around 32% of its GDP, and over the years, though its non-tradable sectors have lobbied their government for a long time, in order to push for the switch from a fixed to a floating exchange rate regime, their effort proves to be unsuccessful. By contrast, India also has a

manufacturing sector accounting for around 17% of its GDP. However, the country switches from a fixed to a managed floating exchange rate regime starting from the late 1970s, and remains to be a floating exchange rate regime since then.

The explanation offered by this thesis is that whether the manufacturing sector of a country would prefer a fixed exchange rate regime will depend on whether the country is more open to the world economy with respect to trade. As Knight (2010) points out, firms actively involved in international trade tend to actively lobby the government to maintain a fixed exchange rate regime if they are unable to hedge against exchange rate risks. Knight (2010), Kinderman (2008) and Garrett (1988) summarizes that there are two major ways for firms involved in international trade to hedge against exchange rate risks, either by moving production to other countries (operational hedging) or by purchasing financial instruments known as foreign exchange derivatives (financial hedging). However, with respect to the Asian countries analyzed by this thesis, the two options are both not feasible since firstly, operational hedging would require firms to have a large amount of mobile capital, and given the costs associated with setting up production in another country, only large multinational firms would be able to perform this kind of risky management strategy. However, firms in the manufacturing sectors in Asian countries open to international trade, such as in China and Malaysia, are mainly small-to-medium sized private enterprises with limited amount of mobile capital, which would make it difficult, if not impossible, for them to involve in operational hedging. Secondly, when looking at financial hedging, firms being able to purchase foreign exchange derivatives, such as forwards, futures and options would require the country to have a mature financial market, while Asian countries' financial markets are, in general,

inchoate relative to advanced economies. With limited options of doing exchange rate hedging, firms in the manufacturing sectors in countries open to international trade will lobby the government to adopt and maintain a fixed exchange rate regime in order to boost their exports. On the contrary, the manufacturing sector in countries which are relatively isolated from the international trade system, such as India, will tend to be indifferent or even prefer a floating exchange rate regime, since a floating exchange rate regime could help reduce their domestic financing costs, as is discussed in the previous theory section.

This thesis also argues that different sectors' policy preferences towards the exchange rate regimes will eventually be translated into policy outcomes through their lobbying effort towards to the government, and the policy outcome will depend on the distribution of politically influential proponents and opponents in favor or against a fixed exchange rate regime. When there are more influential actors favoring exchange rate stability, then it is more likely for the government to maintain a fixed exchange rate regime, all else being constant.

The aforementioned theory leads to the following hypothesis:

For countries with fixed exchange rate regimes, when the country is actively involved in international trade, the larger the manufacturing sector, the longer the fixed exchange rate regime arrangement will endure.

In countries actively involved in international trade, as an interest group, the manufacturing sector of a country will lobby the government to adopt and maintain a fixed exchange rate regime in order to boost exports, while there are other non-tradable

sectors, such as the service sector and other import competing sectors who will also form interest groups to lobby the government for a policy change – from the fixed to a floating exchange rate regime. Hence, the manufacturing sector alone will not necessarily win the lobbying battle. However, if the manufacturing sector of a country could locate a strong political ally who also favors maintaining the fixed exchange rate regime, it is then less likely for a country to switch to a floating exchange rate regime.

A country's banking sector will be a natural alliance to the manufacturing sector to argue for maintaining a fixed exchange rate regime due to the following reason: As was discussed in the previous section, according to the theory of development economics, interest rate control is a powerful policy instrument that could allow policymakers to implement financial policies that would benefit specific sectors. For instance, if the lending rate of a country is set at an artificially low level, it will benefit the country's manufacturing as well as real estate sector since companies will be able to borrow money from banks at an artificially low rate. When adopting interest rate control, in the most restrictive case the government specifies both lending and deposit rates by fiat, or equivalently, sets ceilings or floors tight enough to be binding in most circumstances. An intermediate regime will allow interest rates to fluctuate within a band (Abiad, Detragiache and Tressel (2006)). As an effective tool of financial repression, this thesis suggests that when a government adopts the interest rate control policy, in the restrictive case the central bank would mandate a wide spread between bank lending and deposit rates, thereby making the nation's commercial banks the biggest beneficiary of the government's policy initiative, as they could gain a super-normal profit through this mandated spread. According to the theorem offered by the Mundell-Fleming Model,

when a country faces the choice of formulating international economic policy, an interest rate control policy, a policy of capital account restriction and a fixed exchange rate regime usually go hand in hand.

The Mundell-Fleming Model is taken from the most influential approach of balance of payments developed in the early 1960s. The model is a theoretical illustration of a policy dilemma: Simply put, the Mundell-Fleming approach suggests that a country can have at most two of the following three conditions: a fixed exchange rate, monetary policy autonomy, and capital mobility. The incompatibility between these three policy goals leads Cohen (1993) to refer to them as the "Unholy Trinity". As Cohen (1993) explains in his classic piece "The Triad and the Unholy Trinity: Lessons for the Pacific Region": The problem is that in an environment of formally or informally pegged rates and effective integration of financial markets, any attempt to pursue independent monetary objectives is almost certain, sooner or later, to result in significant balance-of-payments disequilibria, and hence provoke potentially destabilizing flows of speculative capital. To preserve exchange rate stability, governments will then be compelled to limit either the movement of capital (via restrictions or taxes) or their own policy autonomy (via some form of multilateral surveillance or joint decision making). If they are unwilling or unable to sacrifice either one, then the objective of exchange rate stability itself may eventually have to be compromised. Over time, except by chance, the three goals cannot be attained simultaneously.

The "Unholy Trinity" implies that if a country adopts a fixed exchange rate regime in the first place, with mobile capital, the country will lose control of its monetary policy. Assume the authorities want an expansionary monetary policy, without capital

mobility, a fall in interest rates will lead to a rise in demand, and the economy will be stimulated. However, with capital mobility, reduced domestic interest rates will render an outflow of capital in search of higher interest rates abroad, and long before monetary policy has a real effect, interest rates will be bid back up to world levels (Frieden, 1991), resulting in the government's effort of monetary expansion in vain.

So far, the Mundell-Fleming Model is perceived as merely an important statement on the relationship among exchange rate, capital mobility and monetary policy autonomy. However, few scholars have analyzed the political consequences implied by the model. As a theoretical extension, this thesis argues that the political consequences implied by the Mundell-Fleming Model is that once a country adopts a fixed exchange rate regime in the first place, the government of that country would prefer to impose restrictions on capital mobility so as not to lose control over its monetary policy. With the barriers on capital mobility, it would become difficult, if not impossible, for the country to let the exchange rate to become market determined, therefore reinforcing the existence of the fixed exchange rate regime.

The political implications of the Mundell-Fleming Model begins with the fact that even after more than thirty years of the demise of the Bretton Woods system, a large number of emerging market economies still choose to adopt and maintain a fixed exchange rate regime. There are two major benefits of maintaining a currency peg: First, fixed exchange rate regimes increases credibility by decreasing the transaction costs for investors, traders and other groups exposed to the international market (Frieden, 2002). Moreover, pegging one country's currency to another credible currency, such as the U.S Dollar, also works as a credibility enhancing feature to curb inflation. With a large

number of emerging market economies still prefer to maintain a currency peg, these countries tend to impose restrictions on capital mobility, as free capital mobility combined with a currency peg will render the country losing control of its monetary policy, as implied by the Mundell-Fleming Model. In their studies of capital account liberalization in OECD countries, Alesina et al. (1994) and Mathieson and Rojas-Suarez (1993) both conclude that a country's inability to pursue independent monetary policy is likely to cause a "disruption of structural adjustment and stabilization programs and to aid in the resolution of balance-of-payments crises". For instance, Stiglitz (2002) argues that for emerging market economies in Asia which adopt currency pegs, the easing of controls on capital mobility was at the center of most of their currency crisis -- East Asia 1997, Russia 1998, and Turkey 2001. He further argues that the primary reason why India and China were spared from substantial currency crises of the 1990s and early 2000s is that they did not allow free capital mobility. Therefore, for countries that adopt a currency peg, they would prefer to control capital flows in order to maintain monetary policy autonomy and to avoid possible currency crisis.

Meanwhile, once a country adopts a currency peg and controls capital flows, it will become difficult, if not impossible, for the government of that country to initiate a policy change towards a floating exchange rate regime, since restricting capital mobility will allow the country to have a domestic interest rate which is different from the world interest rate, as is suggested by the Mundell-Fleming Model. Empirically, Frankel and MacArthur (1988) argue that if capital is perfectly mobile, then the uncovered interest rate differential will tend towards zero. However, if capital is not mobile then the interest rate differential will indicate differences in policy regimes across countries (Leblang,

1997). The two authors estimate the interest rate differential for 1982-1987 for different countries, and the results are quite compelling: countries with open economies (e.g., Hong Kong, Singapore) have smaller deviations between the domestic interest rates and the world interest rates than countries with closed economies (e.g., South Africa).

The interest rate differential resulting from the capital control policy could allow policymakers to implement financial policies that would benefit specific sectors. This thesis suggests that a government's policy of control over capital flow could render the government being able to adopt the interest rate control policy as an effective tool of financial repression. As was discussed above, the nation's commercial banks are the biggest beneficiary of the government's policy initiative of interest rate control, since they could gain a super-normal profit through a mandated spread of deposit and lending rates.

If the government lifts the ban of the control of capital flows, the government will lose control over its monetary policy and will therefore have to allow the domestic interest rates to be the same as the world interest rates, so as to curb interest arbitrage of global investors, which will render the commercial banks losing their privilege to enjoy the super-normal profit gained under the interest rate control policy and the capital control policy. Rogowski (1987) argues that the beneficiaries of a policy change will try to continue and accelerate it, while the victims of the same change will endeavor to retard or to halt it. Olson (1965) further notes that small groups of actors with similar vulnerability profiles and relatively homogeneous preferences are much easier to organize than large groups with heterogeneous preferences. This organizational advantage is further enhanced when actors sharing similar vulnerabilities concentrate

along preexisting organizational lines (Olson 1965, Singer 2010). In this particular case, since commercial banks in a country, in general, share similar competitiveness and balance-sheet vulnerabilities to changes in the interest rate and exchange rate regimes, they can easily mobilize based on the preexisting organizational structure such as a banking association (Singer, 2010). The commercial banks of a country will therefore be able to form their own interest group to lobby the government in order to maintain the interest rate control policy and the capital control policy, thereby reinforcing the existence of the fixed exchange rate regime arrangement. With the manufacturing sector winning a political alliance of the banking sector, it is therefore less likely for the country to switch to a floating exchange rate regime, holding all else constant.

From a theoretical perspective, the reason why the alliance between the manufacturing sector and the banking sector is likely to triumph over the non-tradable sector is because firstly, the manufacturing sector along with the banking sector are arguing for the maintenance of the status quo – the fixed exchange rate regime. Many interest group scholars, such as Baumgartner et al. (2009) and Mckay (2012), have proved empirically that those arguing against a policy change would have an easier task of winning policymakers to their side of an issue. Moreover, compared to the non-tradable sector, the banking sector is traditionally considered as a wealthier sector with the ability to mobilize more efficiently, and therefore can lobby with a louder and more effective voice in politics (Baumgartner et al., 2009, Singer 2010). At the very least, even if there are cases that the interest group resources between the two sides – manufacturing plus the banking sector versus the non-tradable sector – cancel each other

out, it will produce a policy stalemate which would still benefit the side that argues for the status quo – the fixed exchange rate regime.

Following the above argument, this thesis anticipates that once a fixed exchange rate regime is adopted, it will become more difficult for the country to initiate a policy change towards a floating exchange rate regime if the country possesses a large manufacturing sector and is actively involved in international trade. Moreover, if the government wants to introduce more fluctuations into the exchange rate regime, it would have to liberalize the interest rate regime and lift the bans of capital control, which will be strongly opposed by the commercial banks of the nation, thereby reinforcing the existence the fixed exchange rate regime arrangement.

The theory in section 3.2 leads to three hypotheses:

1b. For countries with fixed exchange rate regimes, when the country is actively involved in international trade, the larger the manufacturing sector, the longer the fixed exchange rate regime arrangement will endure.

1c. For countries with fixed exchange rate regimes, the more intensely a country manipulates its interest rates, the longer the fixed exchange rate regime arrangement will endure.

1d. For countries with fixed exchange rate regimes, the more intensely a country controls its capital flow, the longer the fixed exchange rate regime arrangement will endure.

Chapter 4 OLS Regression on the Currency Under/Overvaluation

4.1 Data and Methodology

To test the abovementioned four hypotheses, I use a mixture of methods: Two regression models followed by one case study of China. First, an OLS regression model is built to test hypothesis 1a. The OLS regression analyzes the determinants of exchange rate valuation through examining a panel dataset of eleven Asian countries --- which are China, India, Indonesia, Israel, South Korea, Malaysia, Nepal, Pakistan, Sri Lanta, Thailand and Turkey.[3]

The dependent variable is the intensity of over/undervaluation of a country's exchange rate. There are three major ways to measure a currency's over/undervaluation. The first one is a PPP based approached adjusted for the Balassa-Samuelson effect. The methodology is created by Rodrik (2008) and has been widely used by different researchers, including Subramanian (2010) and Steinberg (2012). The first step is to construct a measure of the real exchange rate (RER). Using data from Penn World Tables, Rodrik establishes an index of the real exchange rate as followed: ln(RER) = ln(XRAT/PPP), where XRAT refers to the nominal exchange rate (national currency units/per US dollar) , and PPP measures the purchasing power parity, which indicates that the exchange rate between the two currencies should naturally adjust to an equilibrium level so that a sample basket of goods and services should cost the same in both currencies. For instance, if a basket of goods and services causes RMB 4.00 in China and US$ 1.00 in the United States, then the implied purchasing power parity would be RMB

[3] The reason why the abovementioned eleven countries are selected is mainly because of data availability: Currency Under/Overvaluation data as well as the data for the level of interest rate control are only available for the aforementioned eleven countries.

4.00 to US $1.00, that is 4/1 = 4. Comparing this figure with the current nominal exchange rate between the two countries of RMB 6.25 to US $1.00: value of RER here will therefore equal to XRAT/PPP = 6.25/4 = 1.5625, indicating that the value of the RMB is more depreciated than indicated by the purchasing power parity, which means that RMB is undervalued.

The problem of using purchasing power parity as the benchmark for an equilibrium exchange rate is that the PPP implies that goods can be traded freely and without costs in different parts of the world. However, in practice there are many services which must be delivered locally (e.g. hairdressing) and could not be traded in a world market, and these nontradable goods are much cheaper in poorer countries, which is called the Balassa-Samuelson effect. Therefore, the RER calculated in step one requires an adjustment. Rodrik accounts for this effect by regressing RER on GDP per capita (GDPPC): $\ln(RERit) = \alpha + \beta * GDPPCit, + ft + uit$, where GDPPC refers to real per capita GDP, ft is a year fixed effect, and uit is the error term. Rodrik's estimation is that β is negative in this regression, indicating that as income increases, the real exchange rate value would fall. The predicted value of ln(RER)* generated by this regression is the Balassa-Samuelson adjusted rate.

Finally, to arrive at the index of undervaluation, Rodrik takes the difference between the actual RER and the Balassa-Samuelson adjusted rate:

$$Ln(UNDERVAL) = \ln (RER) - \ln (RER)^* .$$

Defined in this way, Ln(UNDERVAL) is comparable across countries and over time (Rodrik, 2008). Whenever Ln(UNDERVAL) is greater than zero, it indicates that

the exchange rate is set such that goods produced at home are relatively cheap in dollar terms, and the currency is therefore undervalued. When Ln(UNDERVAL) is smaller than zero, the currency is overvalued.

The second approach is to use the Big Mac index published by the Economist. The Big Mac index was introduced in The Economist in 1986 by Pam Woodall and has been published by that paper annually since then. This Index was then used by some researchers as an evaluation index of currency over/undervaluation of a specific country.

The economic rationale behind the Big Mac Index is also the purchasing power parity, that is, the exchange rate between two currencies should naturally adjust to an equilibrium level so that a sample basket of goods and services should cost the same in both currencies. The only difference is that in the Big Mac index, the basket of goods is simply a single Big Mac burger as sold by the McDonald's fast food restaurant chain. The Big Mac was chosen because it is available to a common specification in many countries around the world.

The Big Mac PPP equilibrium exchange rate between two countries is obtained by dividing the price of a Big Mac in one country (in its own currency) by the price of a Big Mac in another country (in its own currency). This value is then compared with the nominal exchange rate; if it is lower, then the first currency is under-valued (according to PPP theory) compared with the second, and conversely, if it is higher, then the first currency is over-valued. As an example, using figures in July 2008:

The price of a Big Mac was, on average, $3.57 in the United States.

The price of a Big Mac was, on average, £2.29 in the United Kingdom.

The implied purchasing power parity was $1.56 to £1, that is $3.57/£2.29 = 1.56

Comparing this figure with an actual exchange rate of $2.00 to £1 at the time, the result will be the currency over/undervaluation:

(2.00-1.56)/1.56 = 28%

The pound was thus overvalued against the dollar by 28%.

The major limitation of using the Big Mac Index is that by definition it means the United States can never be over- or undervalued, as the U.S. dollar is set as the default currency to be compared to. This becomes a gaping hole from an analytical approach, considering that the US current account deficit currently absorbs the vast bulk of combined surpluses of the rest of the world (Cline and Williamson, 2007). Moreover, there is not enough reason to conclude that the Big Mac is representative of a basket of goods and currencies: In many countries, eating at international fast-food chain restaurants such as McDonald's is relatively expensive in comparison to eating at a local restaurant, and the demand for Big Macs are also different across nations: For instance, the demand for Big Macs are as large in countries such as India as in the United States. Finally, the Big Mac Index could not account for the effect of non-tradable goods, which is the Balassa-Samuelson effect discussed in the first approach.

The third approach is to analyze the real effective exchange rate of the abovementioned eleven Asian countries. The real effective exchange rate (REER), which measures the development of the real value of a country's currency against a basket of the trading partners of the country, is a frequently used variable in both theoretical and

applied economic research and policy analysis (Darvas, 2012). The REER is calculated as:

$$REER_t = NEER_t \cdot (CPI_t / CPI_{t(foreign)}),$$

where REERt is the real effective exchange rate of the country under study against a basket of currencies of its trading partners, CPIt is the consumer price index of the country under study, NEERt is the nominal effective exchange rate of the country under study, and CPIt(foreign) is the consumer price index of the country's trading partners. The real effective exchange rate of the year 2007 is denominated as 100. Hence, under the abovementioned calculation method, an increase in the value of REER represents a real appreciation and means that domestic goods have become more expensive relative to foreign goods. The real appreciation will therefore indicate an increase in the country's current account deficit or a decrease in the country's current account surplus as its domestic goods grow uncompetitive on the international market. The problem of this approach is that though empirically there is a strong correlation between real appreciation/depreciation and currency over/undervaluation, there is no equilibrium level exchange rate here to serve as a benchmark to compare to.

The fourth and final approach is the Fundamental Equilibrium Exchange Rate (FEER), or macroeconomic balance, concept of equilibrium. This is a concept that was introduced into academic analysis by John Williamson (1983). The basic idea is to search for a set of exchange rates that will simultaneously achieve internal and external balance in every country (Cline and Williamson, 2007), and compare the actual exchange rate with the abovementioned set of exchange rates to evaluate currency

under/overvaluation. The major critique of this approach is that though there is a consensus in the academic field about what internal balance is -- non inflationary full employment, external balance is far more controversial. External balance, in general, refers to a current account balance which is sustainable. However, there are still intensive disputes in the academic field on how to define the abovementioned "current account sustainability".

This thesis will use the first approach, that is, the purchasing power parity approach adjusted for the Balassa-Samuelson effect to evaluate currency over/undervaluation due to the following two reasons: 1) compared to the second approach and the third approach, the first approach is more widely used by professional economists and political scientists, such as Subramanian (2010) and Steinberg (2012), in academic research. 2) Though some researchers argue that the fourth approach is technically more advanced than the first approach, the major problem here is that over/undervaluation data is not available for the eleven Asian countries during the thirty-one year period, in which this thesis analyzes. Cline and Williamson publish proposals annually for the past several years on the extent to which Renminbi is over/undervalued using the fourth approach. Besides that, there is no data available on the calculation of fundamental equilibrium exchange rate for Asian countries, particularly the developing countries such as Thailand and Malaysia, due to limited data availability. Hence, this thesis uses Rodrik's methodology to calculate the currency over/undervaluation index, and uses it as the dependent variable in the regression model.

The key independent variable – the importance of the manufacturing sector of a country, is measured as the manufacturing sector's share of GDP, and the data is directly

acquired from the World Bank dataset. This measure is a useful proxy for the political importance of the manufacturing sector since interest groups' political influence should be enhanced along with their share of national income (Blomberg et al 2005; Broz and Frieden 2001, 327; Frieden et al 2001; Singer 2010; Steinberg 2012). The second advantage of this measure is that in the World Bank dataset, this measure is widely available for large samples of countries and time periods, and finally, this measure has been the most commonly used measure in the existing literature (Frieden et al 2001; Singer 2010; and Blomberg et al 2005; Frieden, Leblang and Valev 2009; Steinberg 2012).

In order to check for the robustness of my results, following Frieden, Leblang and Valve (2009) and Steinberg (2012)'s researches on the exchange rate regimes, I also use a second proxy for the political importance of the manufacturing sector -- employment in industry as a share of the total employment, and the data is also directly acquired from the World Bank dataset. The previous measure is preferable because it has many more observations than the second measure. Since both of the indicators are proxies for this hard-to-measure context, this additional indicator ensures that the results do not hinge on a single indicator (Steinberg, 2012).

A country's level of interest rate control is also included in the model. Abiad, Detragiache, and Tressel (2008) developed an ordinal measure of the intensification of a country's interest rate control in which this thesis applies. According to their original coding rule, deposit rates and lending rates are separately considered in coding this measure. In order to look at the type of regulations for each set of rates, deposit and lending rates are both coded as being government set or subject to a binding ceiling

(code=0), fluctuating within a band (code=1) or freely floating (code=2). The coding is then based on the following description:

- Interest Rate Fully Liberalized=4 [2, 2], if both deposit interest rates and lending interest rates are determined at market rates.
- Interest Rate Largely Liberalized= 3 [2, 1], when either deposit rates or lending rates are freed but the other rates are subject to band or only a part of interest rates are determined at market rates.
- Interest Rate Partially Repressed= 2/1 [2, 0] [1, 1][1, 0], when either deposit rates or lending rates are freed but the other interest rates are set by government or subject to ceiling/floor; or both deposit rates and lending rates are subject to band or partially liberalized; or either deposit rates or lending rates are subject to band or partially liberalized.
- Interest Rate Fully Repressed = 0 [0, 0], when both deposit rates and lending rates are set by the government or subject to ceiling/floor.

Here this thesis reverses their ordering so that higher value imply greater interest rate control based on the following cut-points: 0= Interest Rate Fully Liberalized, 1 = Interest Rate Largely Liberalized, 2/3 = Interest Rate Partially Repressed, and 4 = Interest Rate Fully Repressed.

Another principal independent variable is the interaction term: (Manufacturing/GDP) * (Interest Rate Control). The theory developed in this thesis hypothesizes that a country's manufacturing sector will favor undervaluation only if a country extends strong control over its interest rate regime. Based on the calculation of

the dependent variable, higher value would indicate more intensified exchange rate undervaluation. Hence, the theory's key prediction is that the interaction term will be positively signed and statistically significant.

The regression model also includes several control variables that are likely to influence the exchange rate valuation. This thesis includes the country's export volume as a share of GDP and the import volume as a share of GDP, which are expected to strengthen and weaken a country's tendency towards undervaluation, respectively. The thesis also includes the service sector and agriculture sector's share of GDP as two additional control variables because interest group theories would expect these to increase and decrease overvaluation, respectively. The data of the four abovementioned control variables are all retrieved from the World Bank dataset. Meanwhile, Leblang (1999), Broz (2002), Bearce and Hallerberg (2011)'s research all find that non-democracies are more likely to adopt a fixed exchange rate regime. Hence, this proposal also includes the measure of Polity as a control variable. This Polity measurement is acquired from the Polity IV project done by Marshall, Jaggers and Gurr (2010). The measurement is a twenty-one point scale from -10 to 10, with higher values signifying more democratic regimes, and is included in the regression to control for the effect of political regimes over exchange rate valuation.

Meanwhile, the regression model also includes the central bank independence index as another control variable. The central bank is one of the key institutions of the modern rational state, one that all countries must establish if they are to be part of the world community (Meyer et al. 1997). Its role in the economy includes but is not limited to: influencing short-term interest rates, undertaking open market operations, and

enforcing reserve requirements. Furthermore, the actions of the central bank will also affect financial stability and the currency exchange rate (Blinder 1998; Eichengreen 1998; Maxfield 1997). Central bank independence refers to its insulation from influences and pressures by government officials as well as various kinds of interest groups. The hypothesis here is that a more independent central bank is less likely to succumb to the government and interest group pressure to keep the exchange rate undervalued. The central bank independence index used in this thesis is developed by Cukierman, Webb and Neyapti (2009). The measurement is between 0 to 1, with higher values signifying greater central bank independence. Furthermore, the regression model includes central government debt as a share of GDP as another control variable, and the data is directly retrieved from the World Bank dataset. The economic rationale behind is that a fiscally conservative regime will be able to provide the economy with sufficient fiscal space to undertake various kinds of different policy interventions – such as keeping the exchange rate undervalued. Hence, the central government debt as a share of GDP serves as a proxy to gauge how fiscally conservative or liberal a regime is. The hypothesis here is that a fiscally conservative regime is more likely to have a larger policy space to keep its exchange rate undervalued. Finally, based on Broz (2002)'s research, this thesis also includes the GDP volume (in trillion terms) to capture the size of a country's economy. As smaller economies should be more reliant upon global markets, smaller economies should also tend to favor undervaluation.

4.2 Regression Analysis and Results

Table 1 reports the estimation results using the PPP approach adjusted for the Balassa-Samuelson effect to calculate currency under/overvaluation. Since it is a panel

data analysis, the models include country fixed-effects to capture all the unmeasured unit-specific factors that are different across countries but remain constant over time and are likely to affect the dependent variable -- a country's level of under/overvaluation.

Dependent Variable: Level of Under/Overvaluation of Exchange Rates			
	(1) Baseline	(2) Other Controls	(3) Robustness Check
Manufacturing/GDP	-0.026 ***	-0.028 ***	
	(0.006)	(0.008)	
Employment in Industry/Total Employment			-0.003
			(0.004)
Interest Rate	-0.232 ***	-0.289 ***	-0.123 ***
	(0.031)	(0.041)	(0.022)
Manufacturing/GDP *Interest Rate	0.009 ***	0.010 ***	0.001
	(0.002)	(0.002)	(0.001)
Export/GDP		-0.001	-0.004 **
		(0.002)	(0.002)
Import/GDP		0.001	0.003
		(0.002)	(0.002)
Agricultural/GDP		0.000	-0.005
		(0.005)	(0.004)
Service/GDP		-0.015 **	-0.016 ***
		(0.006)	(0.005)
GDP Volume		0.035	-0.140 **
		(0.068)	(0.059)
POLITY Index		0.001	0.001
		(0.001)	(0.001)
CBI Independence		-0.043	-0.073
		(0.052)	(0.053)
Government Debt/GDP		0.001 *	0.001 **
		(0.0004)	(0.0004)
Number of Observations	307	307	307
R^2	0.191	0.284	0.236

Table 1 *p≤0.1, **p≤0.05, ***p≤0.01

Note: Panel Data OLS regression, controlling for country-fixed effect, standard errors in parentheses.

As can be seen from Table 1, Model 1 is the baseline model that only has the size of the manufacturing sector as a share of GDP, the level of interest rate control and the interaction term, while Model 2 includes all the other control variables. The regression result demonstrates that the size of the manufacturing sector as a share of GDP is negatively signed and statistically significant at 1% significance level across two models, while the interaction term is positively signed and statistically significant at 1% significant level across the two models, which indicates that the manufacturing sector in these 11 Asian countries prefer currency overvaluation in general, but is more likely to favor an undervalued exchange rate if the country adopts intensified interest rate control as a policy tool, which proves the first hypothesis. As is indicated in model 2, when the size of the manufacturing sector as a share of GDP increases by one percentage points, the exchange rate would be more overvalued by 2.8%, on average holding all else constant. However, the positive sign of the interaction term indicates that the manufacturing sector gradually favors currency undervaluation as the level of interest rate control becomes stronger.

To better illustrate this interactive relationship, Figure 1 displays the conditional marginal effects of the manufacturing/GDP over currency undervaluation, based on the results from Model 2. The inner squares in Figure 1 denote the marginal effect of manufacturing/GDP on currency undervaluation at different levels of interest rate control. The outer squares denote the 95% confidence intervals of those marginal effects.

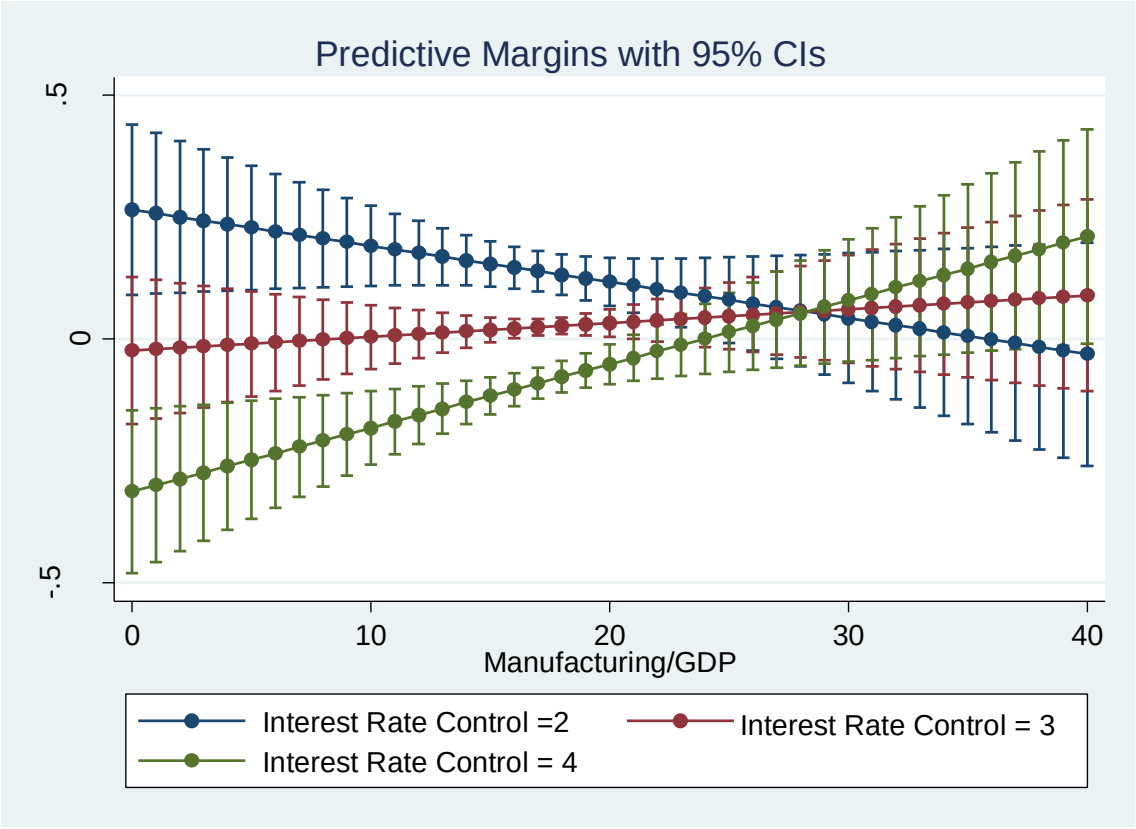

Figure 1 indicates that large manufacturing sector only favors currency undervaluation when the level of interest rate control equals 3 and 4, which means that large manufacturing sector only prefers currency undervaluation when the interest rate is partially repressed, or fully repressed. When the interest rate is partially repressed, increasing the size of the manufacturing sector as a share of GDP by ten percentage points would increase currency undervaluation by 2.8%. However, when the interest rate is fully repressed, an equivalent increase of the size of the manufacturing sector would increase currency undervaluation by 13%. Therefore, this conditional effect is substantively important.

Model 3 uses the employment in industry as a share of total employment as a robustness check and the interaction term here is (the level of interest rate control)

*(employment in industry as a share of total employment). In Model 3, the interaction term is still positively signed, which adds further confidence to our regression results.

Regression results from Model 3 indicates that when the size of the manufacturing sector increases by one percentage points, the exchange rate will be more overvalued by 3%, on average holding all else constant, and this result is fairly consistent with Model 2, though not statistically significant. The interaction term indicates that when the level of interest rate control equals to 3, which means that the interest rate is partially repressed, the exchange rate would be more overvalued by 1.3%. Meanwhile, when the level of interest rate control equals to 4, which means that the interest rate is fully repressed, the exchange rate would be more overvalued by 0.7%. Therefore, Model 3 also indicates that increasing the intensity of interest rate control could reduce the manufacturing sector's preference towards overvaluation, though the conditional effect here is not substantively important, which is probably due to too many missing data points in the dataset of the key independent variable here – employment in industry as a share of total employment.

Another control variable that is statistically significant across Model 2 and Model 3 is the size of the service sector as a share of GDP. The coefficients in Model 2 and 3 for this variable are negatively signed and statistically significant at 5% significance level. The coefficient of the service sector as a share of GDP in Model 2 indicates that when the size of the service sector as a share of GDP increases by one percentage points, the currency would be more overvalued by 1.5%; The coefficient of the service sector as a share of GDP in Model 3 indicates that when the size of the service sector as a share of GDP increases by one percentage points, the currency would be more overvalued by

1.6%. The results are consistent across two models, and correspond to the sectoral preference theory -- the service sector of a country, in general, will favor currency overvaluation since the service sector is the major producer of nontradable commodities. Therefore, their businesses usually do not involve the usage of foreign currency, and would prefer the domestic currency to be more valuable.

The variable central government debt as a share of GDP is also statistically significant at 5% significance level across Model 2 and Model 3. The coefficient in the two models indicate that when the central government debt as a share of GDP increases by one percentage points, the exchange rate will be more undervalued by 0.1%. However, the effect is by no means substantively important. The central bank independence (CBI) index in Model 2 shows that when the index increases from 0 to 1, that is, when the central bank moves from completely dependent upon the government to completely insulated from government pressure, the exchange rate would be more overvalued by 4.3%. The CBI index in Model 3 indicates that when the index moves from 0 to 1, the exchange rate would be more overvalued by 7.3%. However, the CBI index in Model 2 and 3 are both not statistically significant. The variable GDP volume in Model 3 is statistically significant at 5% significance level. The coefficient of the variable in Model 3 means that when the country's GDP volume increases by one trillion, the exchange rate will be more overvalued by 14%. The result corresponds to the hypothesis, that is, smaller economies are more dependent upon the global market, and therefore, will be more likely to prefer a more undervalued currency. The variables Export/GDP, Import/GDP and Agriculture/GDP are all not statistically significant. Meanwhile, the effect of the abovementioned three variables over the dependent variable – currency

under/overvaluation is also not substantively important, indicating that these control variables do not have a strong influence over currency under/overvaluation.

4.3 Further Robustness Checks on the 1997 Asian Financial Crisis

Since the panel dataset contains 11 Asian countries, the effect of the 1997 Asian Financial Crisis needs to be taken into consideration. The Asian financial crisis was a period of financial crisis that gripped much of Asia beginning in July 1997, and raised fears of a worldwide economic meltdown due to financial contagion. The currency of Thailand first collapsed, generating a financial contagion that spreads to Indonesia, Malaysia, South Korea and other Asian countries. Many countries were forced to abandon their fixed exchange rate and currency undervaluation due to lack of foreign reserve to support the currency peg.

Since the Asian financial crisis is a financial shock that affects some of the Asian countries in the panel dataset analyzed, in order to ensure that the financial crisis itself does not affect my regression estimations, I hereby create a dummy variable equaling to 1 for all the years after 1997 and 0 otherwise, and run regressions including this dummy. Since the variable only has two variations 1 and 0, using fixed effect panel data regression might introduce bias as some of the explanatory power of the dummy might be captured by the country fixed effect. Therefore, I am using the fixed effect as well as the random effect models. Table 2 below summarizes the results of two different regressions:

Dependent Variable: Level of Under/Overvaluation of Exchange Rates		
	(1) Fixed Effect	(2) Random Effect
Manufacturing/GDP	-0.028 ***	0.001
	(0.008)	(0.008)
Interest Rate Control	-0.291***	-0.168***
	(0.042)	(0.044)
Interaction Term	0.010 ***	0.005 **
	(0.002)	(0.002)
Export/GDP	0.000	-0.010 ***
	(0.002)	(0.002)
Import/GDP	-0.000	0.010 ***
	(0.002)	(0.002)
Agricultural/GDP	0.000	0.002 *
	(0.005)	(0.001)
Service/GDP	-0.014 **	- 0.000
	(0.006)	(0.001)
GDP Volume	0.052	-0.096 *
	(0.070)	(0.051)
POLITY Index	0.001	0.000
	(0.001)	(0.001)
CB Independence	- 0.053	-0.153 **
	(0.053)	(0.061)
Government Debt/GDP	0.001*	0.001
	(0.0004)	(0.0004)
Dummy of 1997 Crisis	-0.027	-0.011
	(0.029)	(0.029)
Number of Observations	307	307
R^2	0.286	0.187

Table 2 *p≤0.1, **p≤0.05, ***p≤0.01

As can be seen from Table 2, when including the dummy variable capturing the outside financial shock of the 1997 Asian financial crisis, the key independent variable – the interaction term remains positively signed and statistically significant, while in both the fixed effect and random effect models, the dummy variable itself is not statistically

significant, which offers strong evidence that the financial crisis itself does not bias the results of my models.

Chapter 5 Duration Model on the Length of the Fixed Exchange Rate Regime

5.1 Data and Methodology

Chapter 4 analyzes the manufacturing sector's preference towards currency under/overvaluation, and this chapter will follow up on further analyzing the relationship between interest group preferences and the type of exchange rate regimes. The three hypotheses being tested are as followed:

1b. For countries with fixed exchange rate regimes, when the country is actively involved in international trade, the larger the manufacturing sector, the longer the fixed exchange rate regime arrangement will endure.

1c. For countries with fixed exchange rate regimes, the more intensely a country manipulates its interest rates, the longer the fixed exchange rate regime arrangement will endure.

1d. For countries with fixed exchange rate regimes, the more intensely a country controls its capital flow, the longer the fixed exchange rate regime arrangement will endure.

To test hypotheses 1b, 1c and 1d, this thesis establishes a duration model. The premise of the duration analysis is to model both the duration of time spent in the initial state (here is the length of time a country is under the fixed exchange rate regime) and the transition to a subsequent state (change to a floating exchange rate regime). The reason why this paper only looks at countries who adopt a fixed exchange rate regime in the first place is because if the country adopts a floating exchange rate regime in the first place, theoretically it is difficult, if not impossible, for the central bank of a country to be

influenced by banks and the manufacturing sector to switch back to a fixed exchange rate regime, as countries adopting a floating exchange rate regime would mean that the central bank of a country is more independent and market-oriented, and therefore does not interfere in the exchange rate market (Broz, 2002). An independent central bank is more likely to be insulated from the domestic interest group pressure and hence is less likely to switch from a market-oriented exchange rate regime arrangement (a floating exchange rate) to a fixed exchange rate regime arrangement. Moreover, as is mentioned above, theories of interest group politics suggest that groups who argue for the status quo is much more likely to win than groups argue for a policy change. Therefore, the key theoretical hypothesis presented here will be weakened from a "floating to fixed regime" perspective. Last but not least, empirically there are few cases on countries switching from a floating to a fixed exchange rate regime. Hence, the dataset includes eleven Asian countries, which are China, India, Indonesia, Israel, South Korea, Malaysia, Nepal, Pakistan, Sri Lanta, Thailand and Turkey, who were using the fixed exchange rate regime in 1974.

The dependent variable here is the length of years the countries are under the fixed exchange rate regime from 1974 to 2005. The thesis adopts the IMF official classification of exchange rate regimes, and the original coding is to divide the exchange rate roughly into four categories: the pre announced peg or currency board arrangement, pre announced horizontal band that is narrower than or equal to +/-2% and the de facto peg are coded as 1; Pre announced crawling peg, pre announced crawling band that is narrower than or equal to +/-2%, de factor crawling peg and de facto crawling band that is narrower than or equal to +/-2% are coded as 2; Pre announced crawling band that is

wider than or equal to +/-2%, De facto crawling band that is narrower than or equal to +/-5%, moving band that is narrower than or equal to +/-2%, as well as managed floating are coded as 3 and free floating is coded as 4. To fit the dataset for duration analysis, this thesis uses a dichotomous "Fixed-Flexible" dependent variable --- the countries in the original IMF dataset which are coded as 1 and 2 are classified in this thesis as adopting a fixed exchange rate regime, and therefore are coded as 0 and countries in the IMF dataset which are coded as 3 and 4 are classified in this thesis as switching to a floating exchange rate regime, and are therefore coded as 1.

The analysis uses the conditional logit Cox model, which is one type of duration analysis. The convenience of using this model is that even though the dependent variable is a sequence of zeros and ones, the information conveyed by this sequence is equivalent to that conveyed by the actual duration time (Box and Jones, 2004).

One of the key independent variables is the importance of the manufacturing sector of a country, and it is measured as the manufacturing sector's share of GDP[4], and the data is directly acquired from the World Bank dataset. A country's interest rate control is the second principal independent variable, and the dataset is the same one used in Chapter Four, which was developed by Abiad, Detragiache, and Tressel (2008). Here this thesis also reverses their ordering so that higher value imply greater interest rate control based on the following cut-points: 0= Interest Rate Fully Liberalized, 1 = Interest Rate Largely Liberalized, 2/3 = Interest Rate Partially Repressed, and 4 = Interest Rate Fully Repressed.

[4] For interpretation purposes, the data is measured in percentage points. For instance, if the manufacturing sector accounts for 37.57% of a country's overall GDP, in the dataset the amount will be 37.57.

The third principal independent variable is the interaction term measuring the effect of the size of the manufacturing sector over the length of the exchange rate regime when a country is open to international trade. Here a measurement on trade openness needs to be constructed. Sachs and Warner (1995) constructs a dataset on trade openness using a dummy variable – 0 indicating that a country is isolated from the international trade system and 1 indicating that a country is actively involved in international trade. However, this measurement arouses many criticisms from different economists, such as Rodriguez and Rodrik (2000), due to its roughness. Hence, in this thesis, I am using the standard trade openness measurement first introduced by Frankel and Romer (1999), that is, to use a country's volume of export plus import as a share of GDP to measure its trade openness. The dataset is directly retrieved from the World Bank dataset. Here I divide the percentage points in the World Bank dataset by 100, so that the index will be between 0 and 2, [5]and higher value represents greater trade openness. In this case, the interaction term here is: (manufacturing/GDP) * (trade openness index).

The fourth major independent variable is the index on capital account openness developed by Chinn and Ito, which indicates the intensity of capital controls across countries. Chinn and Ito's index is constructed based on the binary dummy variables that codify the tabulation of restrictions on cross-border financial transactions reported in the IMF's Annual Report on Exchange Arrangements and Exchange Restrictions (AREAER). Higher values of the index represent greater openness. The index covers 182 countries, from 1970 to 2011, which is the largest dataset on capital controls ever available.

[5] In the dataset, only Malaysia in certain periods has an index of greater than 2, which means the export plus import accounts for more than 200% of its GDP, which is rare.

The final major independent variable is the size of an economy, captured by the natural log of GDP. Based on Broz (2002)'s research, smaller economies should be more reliant upon global markets. Therefore, smaller economies tend to favor exchange rate stability to boost exports and hence, will be more likely to sustain a currency peg.

Moreover, the regression model also includes several control variables that are likely to influence the length of a country's fixed exchange rate regime arrangement. This thesis includes the service sector and agriculture sector's share of GDP as two additional control variables because interest group theories would expect the service sector to be against the fixed exchange rate regime arrangement and therefore shorten the duration of the fixed exchange rate regime, holding all else constant. Meanwhile, the agriculture sector is traditionally considered as favoring trade protectionism, and therefore considered as an import-competing sector that argues against fixed exchange rate regimes. The data of these two abovementioned control variables are both retrieved from the World Bank dataset.

Moreover, this thesis also includes inflation as another control variable since higher inflation should increase a country's incentive to peg the currency and therefore will help endure the fixed exchange rate regime, holding all else constant. The thesis also includes a measure of central bank independence since countries with less central bank independence might prefer to peg their exchange rate in order to sustain low inflation, and will therefore make the fixed exchange rate regime more endurable. The Polity Index is also included as authoritarian regimes are more likely to sustain a currency peg than their democratic peers in order to increase the credibility of their exchange rate policy. Finally, the thesis includes central government debt as a share of GDP as a

control variable since governments who are more fiscally conservative would have more resources to sustain a currency peg. All the data of the abovementioned four variables are retrieved from the same datasets as were used in Chapter Four.

For the conditional logit cox model, a positive sign of the coefficient estimate implies the hazard rate is increasing as a function of the changes to the covariant; a negatively signed coefficient implies the hazard rate is decreasing (Box and Jones, 2004). Here the hazard rate refers to the risk of switching to a floating exchange rate regime. If the duration model produces results that is consistent with the hypothesis 1b, that is, the large size of a country's manufacturing sector will be correlated with a long period of fixed exchange rate regime when a country is actively involved in international trade, then the interaction term should be negatively signed and statistically significant, indicating that the risk of switching to a floating exchange rate regime would be decreasing when a large manufacturing sector is coupled with a high level of trade openness. Meanwhile, if hypothesis 1c holds, then the sign of the coefficient of the interest rate control variable should also be negative, indicating that the chance of a country switching to a floating exchange rate regime would be decreasing if the country controls its interest rate regime intensely. Finally, if hypothesis 1d holds, the sign of the coefficient for the level of capital control should be positively signed and statistically significant, meaning that a country's chance of switching to a floating exchange rate regime will increase with greater level of capital openness, and the chance of switching to a floating exchange rate regime will decrease with more intensified capital control.

5.2. Descriptive Statistics

Following is a summary of the dependent variable and all the independent variables included in the duration model:

Variable	Number of Observations	Mean	Standard Deviation	Min	Max
Type of Exchange Rate Regime	352	.6022727	.4901252	0	1
Manufacturing Sector/GDP	352	18.89088	9.752643	0	40.47037
Interest Rate Control	345	3.17971	.6838204	2	4
Trade Openness Index	352	.5979696	.3968301	.0901229	2.204068
Interaction Term	352	11.68624	12.43383	0	68.02536
Capital Account Openness	342	-.3576358	1.161621	-1.863972	2.439009
Ln(GDP)	352	24.81942	1.572717	20.92044	28.44501
Agricultural Sector/GDP	352	21.92778	13.65767	0	71.75578
Service Sector/GDP	352	39.6637	14.91161	0	60.69341
Polity Index	320	2.31875	8.166275	-88	10
Inflation	339	16.55238	32.89018	-7.634381	373.8205
Central Government Debt/GDP	352	14.38699	27.7753	0	103.2193
Central Bank Independence Index	352	.1072727	.1824132	0	.8
Employment in Industry/GDP	352	14.12955	11.99828	0	36

With respect to the key independent variables, the size of the manufacturing sector of different countries, the level of trade openness and the level of capital account openness all vary significantly among different countries and over time, which adds confidence to in-depth regression analysis. For instance, following is a graph

demonstrating the size of the manufacturing sector of some Asian countries from the dataset:

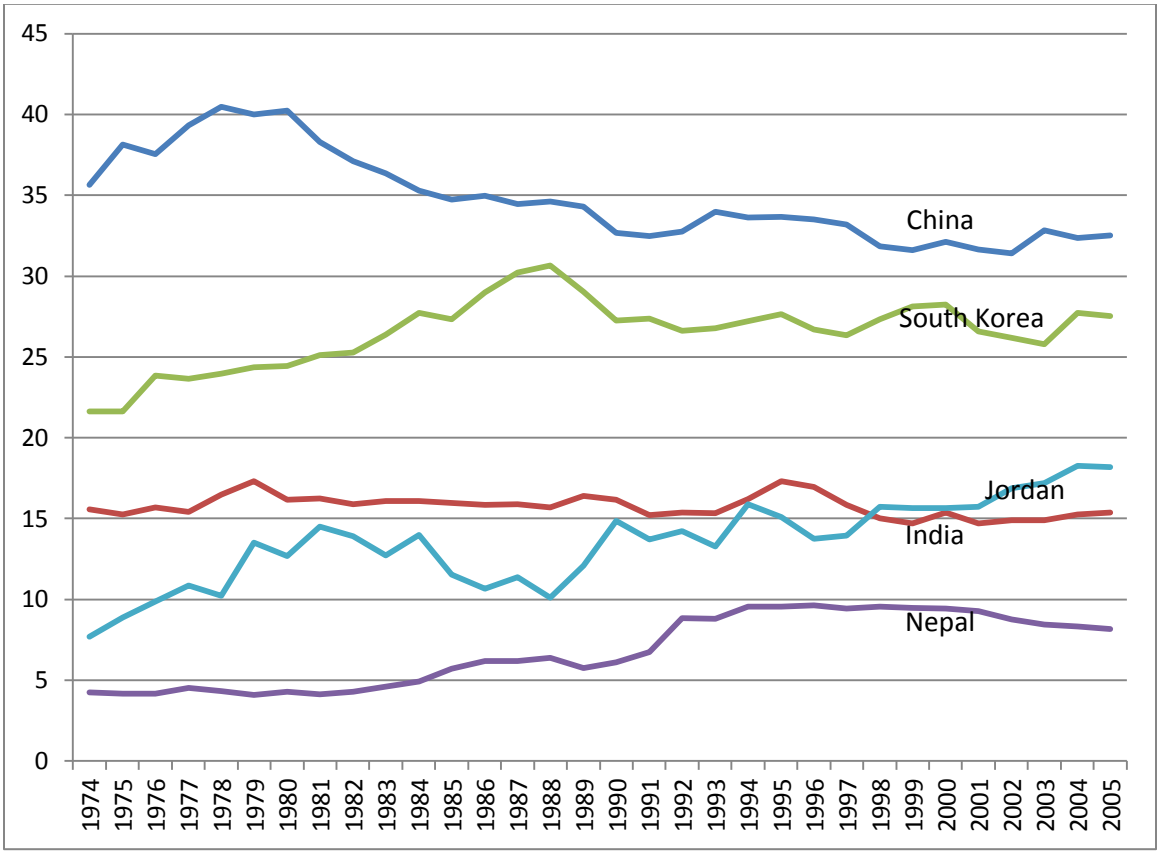

Table 1: Size of the Manufacturing Sector as a Share of GDP for Some Sample Countries

Table 1 shows that in Asia, countries vary greatly with respect to the manufacturing sector's share of GDP. There are countries such as China and South Korea whose manufacturing sector accounts for over 20% of its GDP, and there are other less developed countries such as Nepal whose manufacturing sector only accounts for less than 10% of its GDP. Similar situation could be found on the level of trade openness, and capital account openness. Following are the two graphs showing the level of trade openness and capital account openness of some sample countries in the dataset:

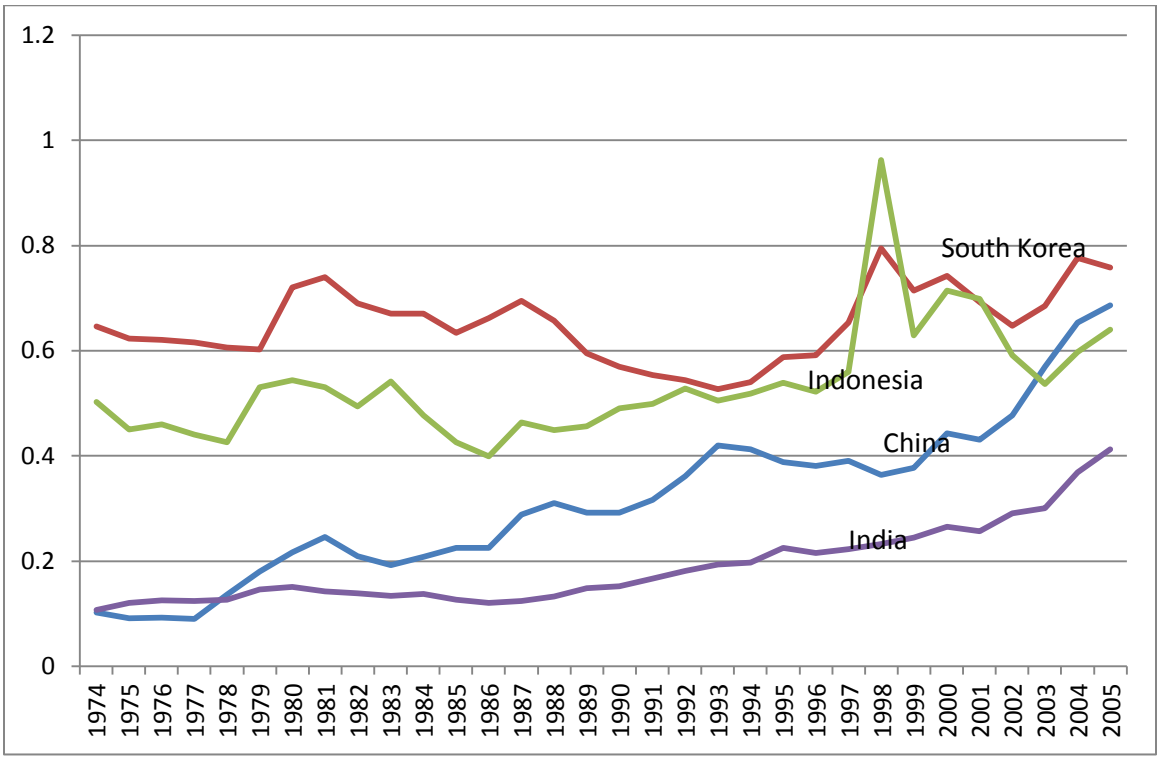

Table 2: Level of Trade Openness in Some Sample Countries

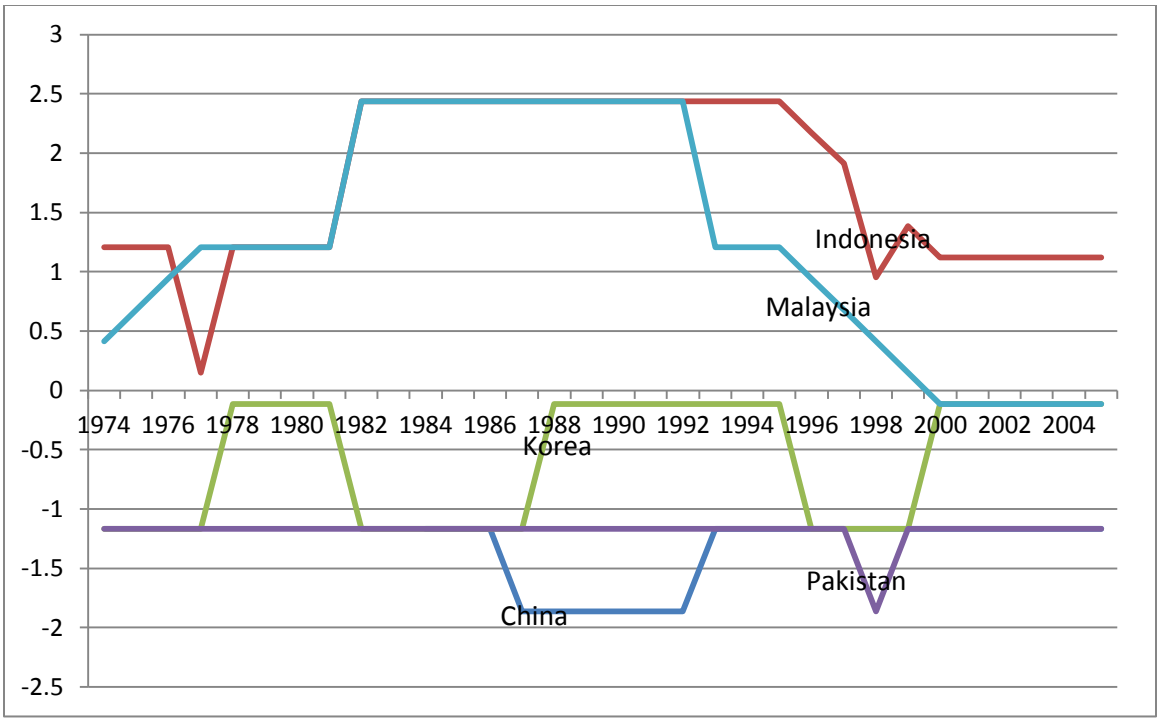

Table 3: Level of Capital Account Openness in Some Sample Countries

As can be seen Table 2, the level of trade openness does vary across different countries. Countries like South Korea and Indonesia are very open to international trade, with export plus import accounting for over 40% of their GDP, up to 80% in certain years. With respect to China, before 1980s, China was a country isolating itself from the international trade system. Yet after adopting the reform and opening up policy in the 1980s, it can be seen from the graph that China's trade openness level steadily increases, and the export plus import as a share of GDP reaches around 70% of its GDP in 2005. Compared to South Korea, Indonesia and China, India is a relatively closed economy, with its export plus import as a share of GDP constantly below 20% before 1995, though there is a steady increase in its trade openness level in recent years.

Table 3 illustrates the level of capital account openness in some countries. From the graph, it is obvious that some countries, such as Indonesia and Malaysia, have a high level of capital account openness compared to some other countries like China and Pakistan. It is worth noting that after 1997, there is a decrease of the level of capital account openness both in Indonesia and in Malaysia, probably due to the attack of the 1997 Asian Financial Crisis.

5.3. Regression Analysis and Results

Table 4 reports the regression estimation results of the duration model.

Dependent Variable: Exchange Rate Regime (0 = fixed, 1 = floating)				
	(1) Baseline	(2) Interest Rate	(3) Capital Account	(4) Other Controls
Manufacturing/GDP	1.076***		1.091***	1.877***
	(0.248)		(0.263)	(0.429)
Trade Openness Index	8.902***		7.006**	18.652***
	(2.853)		(3.089)	(6.564)
(Manufacturing/GDP)	-0.452***		-0.347***	-0.661 ***
*(Trade Openness)	(0.115)		(0.123)	(0.209)
Ln(GDP)	2.308***	1.693***	2.153***	2.857 ***
	(0.440)	(0.305)	(0.457)	(0.960)
Interest Rate		-0.878**		-1.647 *
		(0.348)		(0.886)
Capital Account Openness			1.377***	2.235***
			(0.463)	(0.623)
Agricultural/GDP				0.607 ***
				(0.236)
Service/GDP				0.488**
				(0.241)
Inflation				0.009
				(0.006)
POLITY Index				-0.126 **

				(0.058)
Central Bank Independence				13.233 *** (3.471)
Central Government Debt/GDP				-0.001 (0.016)
Number of Observations	307	307	307	307
Pseudo R2	0.377	0.253	0.421	0.582

Table 4 *p<0.1, **p<0.05, ***p<0.01

Note: Conditional Logit Cox Model, standard errors in parentheses

Model 1 is the baseline model to test hypothesis 1b, that is, a large manufacturing sector is correlated with a long period a fixed exchange rate regime when a country is open to international trade. As can be seen, the interaction term (manufacturing sector/GDP)*(trade openness index) is negatively signed and statistically significant at 1% significance level, indicating that it is 99% certain that for countries open to international trade, a country's chance of switching to a floating exchange rate regime will decrease when its manufacturing sector grows larger. Meanwhile, the variable – natural log of GDP is positive and statistically significant at 1% significant level, indicating that when a country's GDP volume increases, the chance of that country switching to a floating exchange rate regime would also increase. Since the coefficients in the conditional logit Cox model above are expressed as nonexponentiated coefficients, this thesis exponentiates the coefficients reported above so that the interpretations are in the metrics of hazard ratios. Therefore, the coefficient of the size of the economy means that when a country's GDP volume increases by 1%, the chance of that country switching to a floating exchange rate regime would increase by 2.3%. The result corresponds to the

hypothesis that it is more difficult for smaller countries to switch to a floating exchange rate regime, since smaller countries are more reliant upon the global market, and therefore generally prefer exchange rate stability to boost exports.

Model 2 is the benchmark model to test hypothesis 1c. When only regressing the dependent variable with the two key independent variables: level of interest rate control and a country's size of the economy, the variable "level of interest rate control" is negatively signed and statistically significant at 5% level, which proves hypothesis 1c, that is, a country's chance of switching to a floating exchange rate regime will decrease when its level of interest rate control becomes more intense. More specifically, when the level of interest rate control increases from 3 to 4, that is, when the country shifts from interest rate partially repressed to interest rate fully repressed, the chance of switching to a floating exchange rate regime decreases by 58%. Meanwhile, when the level of interest rate control increases from 1 to 4, that is, when the country shifts from interest rate largely liberalized to interest rate fully repressed, the chance of switching to a floating exchange rate regime decreases by 93%. The abovementioned illustrative examples indicate that without liberalizing the interest rate regime, the chance of a country switching to a floating exchange rate regime will increasingly diminish. Meanwhile, the variable natural log of GDP, measuring the size of the economy, remains positively signed and statistically significant, and indicates that when a country's GDP volume increases by 1%, the chance of that country switching to a floating exchange rate regime will increase by 1.02%, on average holding all else constant.

Model 3 is the benchmark model to test hypothesis 1d. When regressing the dependent variable with manufacturing sector/GDP, trade openness index, the interaction

term between the two as well as the level of capital account openness, the level of capital account openness also has the expected sign, that is, it is positively signed and statistically significant at 1% level, which proves hypothesis 1d, that is, a country's chance of switching to a floating exchange rate regime will increase when the country loosens its capital control. More specifically, when the capital account openness index increases from 0 to 1, that is, when the country moves from a complete restriction over capital mobility to a completely free move of capital across borders, the chance of that country switching to a floating exchange rate regime would increase by 296%. The abovementioned illustrative example indicates that a country's level of capital account openness is closely correlated with a country's chance of switching to a floating exchange rate regime, and the effect is substantively important. Meanwhile, the variable natural log of GDP remains positively signed and statistically significant, indicating here that when a country's GDP volume increases by 1%, the chance of that country switching to a floating exchange rate regime would increase by 1.02%, on average holding all else constant.

Model 4 is the one that includes all key independent variables and control variables. As can be seen, the interaction term (manufacturing sector/GDP)*(trade openness index) remains negatively signed and statistically significant across different models (model 1, 3 and 4), adding further confidence to the proof to hypothesis 1b, that is, the larger the manufacturing sector, the longer the fixed exchange rate regime will endure when a country is open to international trade. The level of capital account openness remains positively signed and statistically significant in Model 4, which further proves hypothesis 1d. The level of interest rate control also remains statistically significant at 10%

significance level in Model 4, with the expected sign (negatively signed), adding further confidence that hypothesis 1c is correct.

Another variable that is statistically significant across different models is the variable natural log of GDP. It also has the expected positive sign, indicating that the larger the size of an economy, the more likely it will switch to a floating exchange rate regime. Meanwhile, in Model 4, the variable service sector as a share of GDP has a positive sign and is statistically significant at 1% level, which means that when a country's service sector grows larger, the chance of switching to a floating exchange rate regime would increase. The result further proves the theory in IPE that the service sector is, in general, considered an import competing sector and is against the maintenance of a fixed exchange rate regime. The variable agricultural sector as a share of GDP has a positive sign and is statistically significant at 1% level, which means that as a country's agricultural sector grows larger, the chance of switching to a floating exchange rate regime increases. The result demonstrates that the agricultural sector should be considered as an import-competing sector, and is, in general, favoring trade protectionism and against maintaining a fixed exchange rate regime. Finally, the variable central bank independence index is statistically significant at 1% significance level and has the expected positive sign, which proves the theory in IPE that countries with more independence central banks are more likely to switch to a floating exchange rate regime. Another two variables – inflation and central government debt as a share of GDP, are both not statistically significant, and the coefficients are very small, indicating that their influence towards the maintaining a specific type of exchange rate regime is not at all, substantively important.

5.4 Further Robustness Checks

In order to further check the robustness of my regression results, I am also using the employment in industry as a percentage of total employment as another proxy for the political power of a country's manufacturing sector. The regression results are summarized in Table 5:

As can be seen from Table 5, the key independent variable –-- (employment in industry) * (trade openness index) --- remains statistically significant at 1% significance level across different models (Model 1, Model 3 and Model 4) and have the expected negative sign. Meanwhile, the variable capital account openness index also remains statistically significant at 1% significance level across different Models (Model 3 and Model 4) and has the expected positive sign. The results here offer further proof that hypothesis 1b and 1d are correct. The level of interest rate control in Model 4 also has the expected negative sign, adding further confidence to the correctness of hypothesis 1c.

	Dependent Variable: Exchange Rate Regime (0 = fixed, 1 = floating)			
	(1) Baseline	(2) Interest Rate	(3) Capital Account	(4) Other Controls
Employment in Industry	0.352***		0.294***	0.255***
	(0.096)		(0.091)	(0.090)
Trade Openness Index	9.725***		8.941***	8.818***
	(2.552)		(2.360)	(2.942)
Interaction Term	-0.306***		-0.224***	-0.212 **
	(0.088)		(0.083)	(0.089)
Ln(GDP)	0.998***	1.693***	0.790*	0.614
	(0.385)	(0.305)	(0.425)	(0.789)
Interest Rate Control		-0.878***		-0.832
		(0.348)		(0.571)
Capital Account Openness			0.911**	1.279***
			(0.388)	(0.469)

Agricultural/GDP				-0.064
				(0.164)
Service/GDP				-0.211
				(0.188)
Inflation				0.008
				(0.007)
POLITY Index				-0.039
				(0.056)
Central Bank Independence				8.280 ***
				(2.387)
Central Government Debt/GDP				0.003
				(0.016)
Number of Observations	307	307	307	307
Pseudo R2	0.372	0.253	0.398	0.503

Table 5 *p<0.1, **p<0.05, ***p<0.01

Note: Conditional Logit Cox Model, standard errors in parentheses

Chapter 6 Domestic Politics of China's Exchange Rate Decision-Making --- A Comparison of the Three Different Cases

The major problem of ONLY running a regression model is that the regression could only prove whether large manufacturing sectors, stronger interest rate control and more intensified capital account restriction are correlated with a longer duration of the fixed exchange rate regime, as well as whether a larger manufacturing sector is correlated with a more intensified undervaluation when a country's interest rate control is strong. However, the regression model alone could not tell how different countries' manufacturing sectors as well as the banking sectors' policy preferences towards the exchange rate regimes are eventually translated into policy outcomes. The regression models only assume that different actors' policy preferences are translated into policy outcomes through their lobbying effort towards the government, and the policy outcome will depend on the distribution of politically influential proponents and opponents in favor or against a fixed exchange rate regime. Therefore, it is necessary to analyze additional case studies to illustrate the mechanism of how a country's manufacturing sector and a country's commercial banks wield their power over the government to influence the government's exchange rate decision making.

The analysis in the two aforementioned regressions illustrates that the theory in this thesis is a generalized theory. Many Asian countries, such as China and Singapore, have adopted the interest rate control policy to pursue the export-led growth model, and their policy trajectories fit the theory well. In order to better illustrate the mechanism and empirical implications of the theory generated in this thesis, this thesis analyzes one additional case study of China. The thesis selects China as an additional case study for two major reasons: first, China is now the second largest economy in the world, which

makes it one of the most important nations in Asia as far as international commerce and finance is concerned. Second, when it comes to the two key independent variables in this thesis: China has a large manufacturing sector which is specialized in producing low-end products. However, after 2005 when Chinese Premier Wen Jiabao announced the first step of China's currency reform, that is, moving towards a managed regime that would allow RMB to float against a basket of currencies within a certain range, though the Renminbi is still widely considered to be undervalued against the U.S. dollar, the intensity of undervaluation did vary in the past several years. Meanwhile, China's banking sector is composed predominantly of state-owned banks which possess enormous lobbying power and the Chinese government has been adopting strict interest rate control and capital account restrictions for the past decade. Hence, China provides a typical example of how a country's large manufacturing sector and strong commercial banks act together to exert their power over the government to influence the exchange rate decision making.

This chapter is organized as followed: Section I describes the current international relations as well as international political economy theories of exchange rate regimes, and illustrates why current theories could not convincingly interpret China's choice of exchange rate policies in different periods. The next section lays out my domestic political explanation of China's exchange rate policy, which mainly discusses how China's manufacturing sector as well as China's state-owned banks wield influence over the government's exchange rate decision making process through their political patrons, and also looks at other players with a stake in China's exchange rate decision making process. I argue that China's public policy-making process, in particular the

exchange rate policy-making process, has become increasingly pluralistic. Even in an authoritarian regime like China, interest groups could still lobby the Chinese central leadership through their political patrons, which are mainly bureaucratic agencies in the central government. Since these bureaucratic agencies possess different vested interests, they have a strong incentive to act as political patrons of their respective constituents. The exchange rate policy outcome is therefore determined not only by the strength of respective interest groups, but also by the willingness of their political patrons to pass along their concerns to the central leadership.

To further strengthen my argument, I analyze three different cases: first, during the 1997 East Asian Financial Crisis, China lost its competitive market position due to the devaluation of currencies of its major Asian trading partners (Liew and Xu, 2007), which in turn posed a significant threat to China's economic growth given the fact that China mainly relies on its export to foster its economic growth. Therefore, China did have strong reasons to devalue its currency. However, China eventually chose not to devalue its currency and the case study offers the domestic political reasons behind. Second, after 2002, the year following China's accession to the World Trade Organization, the U.S. bilateral trade deficit with China increased dramatically, and there is mounting pressure from the United States pushing China to move to a floating exchange rate regime. However, it was not until 2005 did China make very limited concessions – In 2005, the Chinese authority announced that the country's exchange rate regime would move from a completely fixed to a managed floating exchange rate regime that would allow the RMB to float against a basket of currencies within a narrow range. The case study offers a comprehensive map of the domestic political economy of China's

exchange rate reform of 2005 and explains why China moved so cautiously in its currency reform. Third, in 2010, after pegging the RMB continuously for two years since the break out of the financial crisis in 2008, the People's Bank of China (PBOC), the country's central bank, announced with much fanfare that China would allow the resumption of the RMB's steady appreciation against the dollar through "a managed floating exchange rate regime" tied to a basket of currencies. The case study again provides a detailed domestic political explanation of this move.

6.1 The International Relations and International Political Economy Theories of Exchange Rate Policy

Scholars in the field of international political economy (IPE) have offered two main explanations for why countries choose to maintain a fixed exchange rate regime: First, fixed exchange rate regimes increases credibility by decreasing the transaction costs for traders and other groups exposed to the international market, therefore helping to boost exports (Frieden, 2002). Second, pegging one country's currency to another credible currency, such as the U.S Dollar, also works as a credibility enhancing feature to curb inflation (Broz, 2002). Meanwhile, IPE scholars have generally agreed that keeping an undervalued exchange rate would significantly promote exports of a specific country as it will make the export commodities cheaper on the international market.

IPE theories of keeping a fixed exchange rate regime and currency undervaluation summarize the two major economic benefits of adopting such policies – export-led growth and curbing inflation. However, the abovementioned theories

neglect the possible accompanying economic costs of maintaining a fixed exchange rate regime and keeping currency undervalued. The costs are not at all negligible, which consist of low financial returns of the foreign currency reserves accumulated, the difficulty of handling the large amount of speculative capital inflows, reduced purchasing power of the domestic population, the whole economy being vulnerable to outside economic shocks, etc. First, with a fixed exchange rate regime and currency undervaluation, countries tend to run trade surplus and all the extra U.S. dollars earned have to be purchased by the central bank, thereby increasing the amount of foreign exchange reserves accumulated. However, foreign reserves are an unprofitable asset for central banks to hold since most foreign exchange reserves are held in the form of US Treasury securities, which yield a very low rate of interest (Steinberg, 2013). For instance, According to Gene Ma, managing director of the China research team at International Strategy & Investment (ISI), an investment advisory company, China's foreign exchange reserves generate exceptionally low rate of return. Based on Ma's estimation, as far as China's total amount of foreign assets is concerned, around 75% is held by the central bank, in the form of foreign reserves, while Chinese companies and individuals hold the rest. To ensure the safety and mobility of China's foreign reserves, the government invests the foreign reserves mainly in U.S. Treasury bonds, with an annual return of those bonds only around 2% or 3% (Knowledge@Wharton, 2010). Rodrik (2006) further estimates, using a large dataset with different countries, that the low returns earned on foreign reserves reduce many countries' income by as much as 1% of GDP.

Moreover, with the fixed exchange rate regime, if there are expectations of currency appreciation or depreciation in the future, there will be large amount of speculative capital inflows, the so-called "hot money", flowing in and out of the country seeking high investment returns, which will heavily undermine the effectiveness of central bank's monetary policies and will render the country being vulnerable to currency crisis. Furthermore, by keeping the exchange rate undervalued, it will make it more expensive for local businesses and consumers to purchase imports, thus reducing the domestic population's purchasing power (Broz and Frieden, 2001, Steinberg, 2013). Put it more broadly, there will be a price distortion between tradable commodities and non-tradable commodities under currency undervaluation. Countries will therefore invest excessively to export-oriented sectors such as the manufacturing industries and under invest in service sectors. In this case, service sectors which produce non-tradable commodities would never develop, and the economy would continue to grow unhealthily, posing a negative impact on countries' long-term economic development and make the countries which are overly dependent upon their export sectors extremely vulnerable to outside economic shocks. For instance, China has mainly been relying on its export sector to boost its economic growth rate. However, during the 2008 financial crisis, with the shrinking demand from China's major trading partners, the crisis posed a negative effect over China instantly and threatened severely China's overall economic trajectory. Hence, the government had to issue a stimulus plan totaling 4 trillion Renminbi, in order to rescue the economy. Moreover, South Korea experienced a similar situation in the early 1980s: Korea adopted a fixed exchange

rate regime starting 1974, and the country had relied many on its export sector and government-sponsored export promotion programs to foster its economic growth rate. However, the severe recession in the U.S. and other OECD countries in the early 1980s hit Korea's export intensive economy severely. Therefore, while keeping a fixed exchange rate regime and the currency undervalued undeniably generates some positive economic impacts, it also produces numerous negative outcomes.

Current IPE theories, therefore, fail to offer a comprehensive explanation as to why countries choose to maintain a fixed exchange rate regime and currency undervaluation. When people take the cost of maintaining a fixed exchange rate regime and currency undervaluation into consideration, it is not clear whether the benefits outweigh the costs of adopting such policies, or vice versa. With the benefits and costs being imposed over different groups in a country, different sectors and groups within a single country are likely to have very different preferences on what kind of exchange rate regimes the country should adopt. This renders another problem with the existing IPE theories of exchange rate regimes –they could not explain why policymakers prioritize the preferences of some sectors and groups over others, and decide to maintain a fixed exchange rate regime and currency undervaluation.

When applying the IPE theories of exchange rate regimes specifically to the China case, the theories also encounter difficulty explaining why China has maintained a currency peg to the dollar since 1994, did not devalue its currency to boost exports during the 1997 Asian Financial Crisis, made some limited efforts in introducing more flexibility into its exchange rate regime in 2005, and finally decided

to resume the managed floating exchange rate regime in 2010. It is highly unlikely that the benefits of maintaining a fixed exchange rate regime and currency undervaluation far outweigh the costs of maintaining such policies. In fact, the incentive of maintaining a currency peg to curb inflation is relatively low in China --- though China did experience relatively high level of inflation in the 1980s, inflation has, since the late 1990s, no longer been a problem in China. After the Asian Financial Crisis hits in 1997, China's main economic problem in 1998 and 1999 was deflation rather than inflation (Liew and Wu, 2007). Consumer prices fell by 0.8 percent and retail prices by 2.6 percent in 1998 compared to the 1997 prices (Liew and Wu, 2007). On the other hand, with respect to the goal of boosting exports, with its huge population, China possesses a much larger domestic market and should be less dependent upon exports than many other countries (Broz, 2002, Steinberg 2013). Therefore, it is indeed puzzling why China chose to maintain its currency peg for years starting 1994, and current IPE theories of exchange rate regimes alone could not explain China's choice of its exchange rate regimes. Moreover, current IPE theories only offer explanations as to why a fixed exchange rate regime would persist in some countries, while not providing sufficient explanations as to why some countries make changes in its exchange rate regimes. Therefore, the theories encounter difficulty explaining why the Chinese central leadership decided to introduce limited flexibility into its exchange rate regime in 2005 and resumed a managed floating exchange rate regime in 2010.

Another popular approach in explaining China's choices of exchange rate policies in 1997, 2005 and 2010 is that some scholars and observers argue that the Chinese

government's exchange rate policy initiative mainly serves its foreign policy objectives: In 1997, the Chinese government eventually chose not to devalue its currency, on the grounds that it wanted to limit the risk that the crisis would spread (Hale and Hale, 2003). By doing so, China could demonstrate to the world that the country is a responsible player in the international financial system, and this will in turn improve the country's standing in Asia and its international reputation as a whole (A. Goldstein, 2005; Grimes, 2009, Wang, 2003, Liew and Wu, 2007). Similarly, some authorities argue that China made a move from a fixed to a managed floating regime in 2005 because the country succumbed to huge pressure from the United States, pushing China to appreciate its currency and move to a floating exchange rate regime (Wright, 2009).

There is no doubt that China's foreign policy interest was taken into account in the country's exchange rate decision-making process – In 1998, immediately after the outbreak and quick spread of the Asian Financial Crisis, Liu Minkang, the then deputy governor of the PBoC, announced at a press conference that "the Chinese government is a responsible member of the big family of the international community" (Liew and Wu, 2007), indicating that the government indeed took China's image on the international stage into consideration when making its decision as to whether to devalue the RMB. Meanwhile, scholars have argued that international pressure, particularly from the United States and later joined by other G7 member countries, was one factor promoting the start of the exchange rate appreciation in 2005 (Wright, 2009; Steinberg, 2012).

Though international pressure plays a role in the government's exchange rate policy decision, it is doubtful that international pressure and foreign policy considerations were a necessary and sufficient condition for the Chinese government's final decision.

First, concerning the Chinese government's decision in 1997 not to devalue its currency -- In the late 1990s, China was already an export-driven economy and replied heavily on its export sector to boost its economic growth rate. Moreover, as an authoritarian regime, the legitimacy of the ruling party – the Chinese Communist Party – relies, in large part, over whether the party could maintain social stability of the country. Maintaining social stability would require the country to have a reasonably high economic growth rate. Hence, the Chinese government would not run the risk of wrecking its export sector to fulfill its foreign policy initiative. Second, external pressures, mainly from the U.S., also fail to explain the timing of China's move from a fixed to a managed floating exchange rate regime: The U.S. government started to exert intense pressure on China to appreciate its currency in the fall of 2003: At least 10 bills opposing Chinese currency policy were introduced into the U.S. Congress between September and November 2003. However, China did not make any change to its exchange rate policy for another two years (Steinberg, 2012). Moreover, the billed introduced by Senator Schumer in 2003 required the RMB to appreciate by at least 27.5%, while the RMB appreciated by only 2.4% against the dollar between June and December, 2005. If China indeed caved in to the U.S. pressure at that time to appreciate its currency, the RMB would have appreciated much more substantially in 2005 (Steinberg, 2012).

Interviews with two U.S. diplomats who were involved in the 2003 to 2005 negotiation with China over China's RMB policy confirms the notion that foreign pressure from the U.S. had very limited impact over the Chinese government's exchange rate decision-making process – they both argued that China's pace of currency reform is more in line with its domestic economic position, and if the domestic logic of RMB

appreciation strengthens, the international pressure might become an additional factor strengthening the Chinese central leadership's determination (interview 18, 19). However, though both the Congress and the executive branch pushed China a lot, hoping to make China's exchange rate eventually market-determined, the Chinese government's move in 2005 was very cautious – barely enough to "keep the bilateral relationship going" (interview 18). Furthermore, quantitative empirical analysis done by different scholars also verifies that there is no statistically significant relationship between external political pressures and RMB appreciation. For instance, by quantifying the external political pressures using a dummy variable, Liu and Pauwels (2012) find that US and non-US political pressure does not have a significant influence on RMB's daily exchange rates. Zhang (2013) also finds that political pressure from Congress and the US public media have little impact on the RMB exchange rates. Therefore, though the international pressure is a major driving factor that triggers the internal debate in China over whether and how to change its exchange rate policy in 1997 and 2005, external pressure is not at all a decisive factor influencing the Chinese central leadership's final decision. Hence, domestic political factors must be taken into consideration to understand China's exchange rate policy.

6.2 China's Exchange Rate Policy – An Explanation from a Domestic Political Economy Perspective

Since China is an authoritarian regime, the standard narrative of the disputes between the United States and China over exchange rate policy portrays a unified Chinese leadership defending China's position against claims by the United States that an

undervalued Chinese currency—the Renminbi (RMB), gives China an unfair trade advantage. Yet the reality is that the Chinese central leadership's public policy decision making process has become increasingly pluralist. Lieberthal and Oksenberg (1988) describe the China's political system as a "fragmented authoritarian regime", in which the single leading party – the Chinese Communist Party—forms the central government which includes multiple government agencies that possess different, and sometimes conflicting, policy preferences. Martha (2009) further notes that in China, policy made at the center becomes increasingly malleable to the parochial organizational and political goals of various vertical agencies and spatial regions charged with enforcing that policy, and the policy arena has been governed by incremental change via bureaucratic bargaining. As a consequence, the Chinese central government is responsive to the increasingly diverse demands of the Chinese society and has to take the concerns of different domestic interest groups into consideration (Yuan, 2012). Therefore, the official government position sometimes reflects the views of those groups rather than of national interests.

As far as the definition of "lobbying power" of China's different interest group is concerned, this "lobbying power" has two faces: first, it contains the behavior power when it can be observed that a specific interest group wields its influence over the government to push a reform; second, it refers to the interest groups' influence over the government to control what policy initiatives the government should put on the agenda (Bachrach and Baratz, 1962).[6] This thesis explains both faces of lobbying power,

[6] This is called by Bachrach and Baratz as the second face of power -- a specific group's influence over the government to push a non-decision making process, that is, the block certain issues to be put on the agenda and to block a reform process accordingly.

particularly focusing on the second face—how China's different interest groups who benefit from the status quo, which is currency undervaluation and the fixed exchange rate regime, act together to block the change. First, I describe the main interest groups involved in the political conflict over China's exchange rate policy decision-making process. Second, I explain the lobbying strategies of different interest groups over their political patrons and why their respective political patrons are willing to speak on behalf of them. Finally, I articulate the balancing of power of these competing interest groups and explain why in the two different cases, which are the 1997 and 2005 cases respectively, the Chinese government made different decisions.

6.2.1 China's Manufacturing Sector

The first major interest group involved in the political conflicts of China's exchange rate decision-making process is China's manufacturing sector. As an archetypal tradable sector, China's manufacturing sector is unusually large compared to China's non-tradable sectors (Steinberg, 2012). Since the early 1980s, China's manufacturing sector has been able to produce around one third of a country's GDP (World Bank, 2013). By stark contrast, China has a relatively small service sector, with a services-to-GDP ratio in the bottom 20% of all countries in 2005 (World Bank, 2010, Steinberg, 2012). Becker (1983) and Rogowski (1987) both argue that interest groups who enjoy a sudden increase in actual or potential wealth and income will be enabled to expand their political influence as well. Therefore, it is reasonable to assume that China's manufacturing sector's lobbying power should be stronger than China's non-tradable sector. Many scholars, such as Wright (2009) and Steinberg (2012) , indeed argue that China's manufacturing sector as a whole possesses strong lobbying power and prefers currency stability, that is, a fixed exchange rate regime as well as currency

undervaluation. Steinberg (2012), in particular, states that China's manufacturing sector is able to "translate its economic advantage into a political advantage," and through their lobbying efforts, eventually the power of tradable industries outweigh that of non-tradable industries within the Chinese government.

In this thesis, I depart from the current literature arguing that firms in China's manufacturing sector should not be treated as unanimous, and their preferences towards currency under/overvaluation would actually depend on the firms' ownership type.

There are four major types of firms in China's manufacturing sector: Sino-foreign hybrid firms (Sino–foreign joint ventures), solely foreign funded enterprises, state-owned enterprises (SOEs) and purely Chinese privately held enterprises (Chen, 2012).

Table 1 describes the exporters' export share by ownership type, from 2000 to 2006. As can be seen below, the shares of SOEs and Sino–foreign hybrid firms (joint ventures) in total exports decline from 6.78 and 43.84 percent in 2000 to 5.78 and 32.92 percent, respectively, whereas the shares of foreign firms and private firms increase from 39.78 and 0.63 percent to 47.52 and 10.47 percent, respectively. Meanwhile, until 2006, the smallest share of export values is that of SOEs, while the largest share is that of foreign firms, which include solely foreign funded firms and joint ventures, accounting for around 75 percent of the total export share. Meanwhile, though private enterprises still only account for around 10 percent of the total export share, their export share increases quite fast from 2000 to 2006, from 0.63 percent in 2000 all the way up to 10.47 percent in 2006.

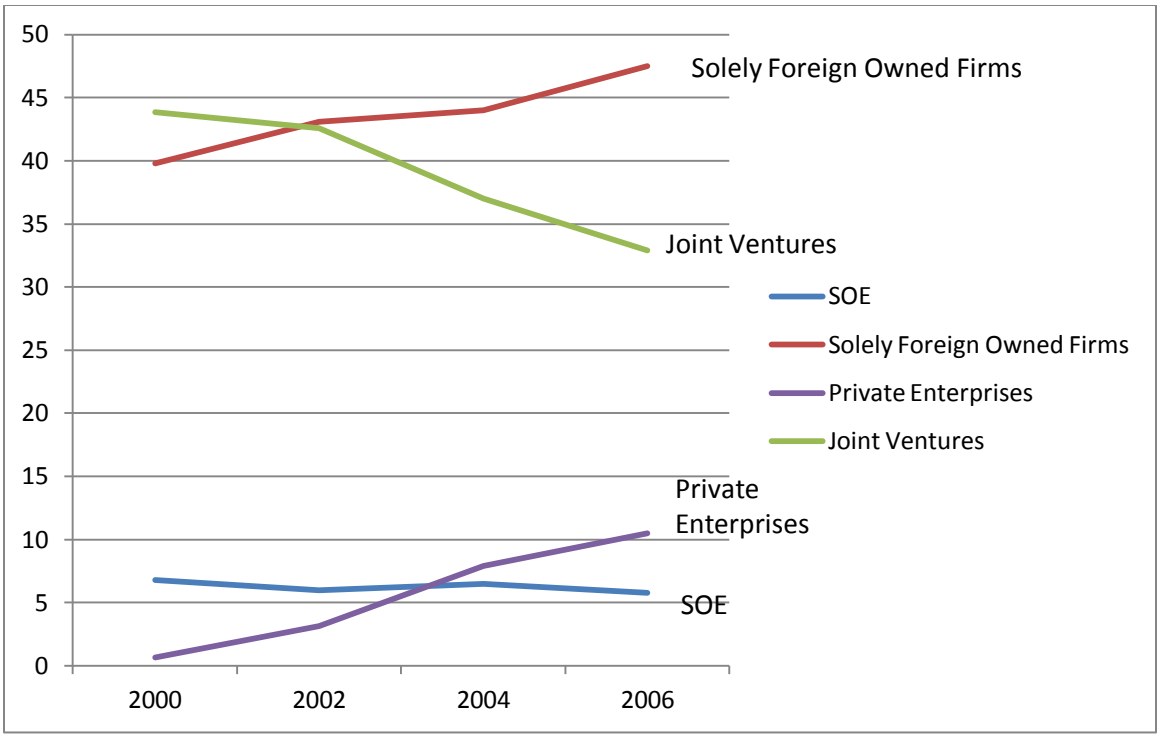

Table 1: Export Share (%) of Total Export (Chen, 2012)

Among different types of firms, foreign funded enterprises, which include solely foreign funded enterprises and joint ventures, are mainly involved in processing trade rather than ordinary trade (interview 7).[7] The decline in transportation costs and policy barriers over the last few decades have rendered a boom in the size of processing trade worldwide, in which firms perform only intermediate segments of the supply chain by processing and assembling imported inputs, before re-exporting to final producers and retailers abroad (Manova and Yu, 2013). In order to boost exports, in the mid 1980s, China, in particular, officially introduced a processing trade regime that exempts materials imported for further processing and re-exporting from import duties.[8] Since

[7] The author has respected the interviewees' preferences to remain anonymous and therefore does not cite them by name. Instead, I cite these interviews numerically. All cited interviews took place in winter 2013, and summer 2013.
[8] Ibid

then, many foreign investors, including those from Taiwan and Hong Kong, established many foreign funded export companies, which are either solely foreign funded or in the form of joint ventures, and involved themselves in the processing trade.

As a matter of fact, these companies only moderately prefer a more undervalued Renminbi due to the following reasons -- if the Renminbi devalues, it will make their final export products more competitive. However, an Renminbi devaluation would also raise these firms' costs for the following two reasons: firstly, these firms need to purchase inputs in order to produce the final export products, and an Renminbi devaluation will make the imported goods more expensive. Moreover, foreign-funded enterprises usually face domestic credit constraints – loan officers in China's state-owned commercial banks, in general, are not willing to offer bank loans denominated in Renminbi to foreign-funded export firms, for fear that they will be held responsible if the loans could not be repaid on time. Therefore, these companies constantly borrow funds on the international capital market and typically exhibit items denominated in foreign currencies in its balance sheet (interview 9). A shift to a more undervalued Renminbi will then make their foreign currency denominated liabilities more expensive.

Moreover, some foreign-funded export firms are actually multinational corporations who establish their branches in China, in order to assembly part of their commodities within the Chinese territory and then export to other parts of the world. In this case, these firms can easily hedge their exchange rate risks through the method of operational hedging, that is, setting up the whole production process in different countries to minimize the lost of exchange are fluctuations (Interview 10).

Last but not least, if the fluctuation of the Renminbi makes the businesses of foreign funded enterprises unprofitable, these firms could always choose to move their manufacturing facilities to other third-party developing countries. After 2005, with the gradual appreciation of Renminbi and a growing wage increase, there is evidence that many foreign-owned export firms have moved their manufacturing facilities which previously were located on the Chinese coast to inland China as well as to neighboring, wage competitive countries (interview 9). Therefore, foreign-owned export companies do not have a strong incentive to invest time and resources to lobby the government for maintaining an undervalued currency.

With respect to state-owned export firms, they also do not have a strong incentive to lobby the government fiercely for maintaining an undervalued exchange rate. The reason behind is that starting from the 1990s, a system named "export contract system" was implemented in state-owned export firms. The system requires state-owned export firms to expand the scale of their export volume and get as much foreign currencies as possible through export activities, while not emphasizing on the net profit of SOEs (Yue, 2007). The volume of the export and the amount of foreign currencies earned are the two major evaluation criteria over the performance of the managers in SOEs, and these administrative-level personnel are promoted or demoted mainly based on the abovementioned two criteria.[9] Against this backdrop, managers in the SOEs focus solely on "fulfilling the export target" and produce whatever export products that could meet the "export target" (Yue, 2007), while not caring a lot about making profits for the companies. Therefore, even if the Renminbi appreciates and the profit margin of these

[9] Ibid

companies decreases accordingly, firms could still meet the export target by making the unit price cheaper in U.S. dollar terms for their export products (Interview 10). Hence, all things being equal, SOEs will prefer a more undervalued Renminbi. However, managers in the state-owned export firms do not possess a strong incentive to lobby the government for maintaining an undervalued currency.

Among different types of firms, purely Chinese privately held enterprises have the strongest incentive to lobby the government against Renminbi appreciation, for the following reasons: private export firms are involved in both ordinary and processing trade. With a gradual appreciation of the Renminbi, their profit margin decreases dramatically since their profit margin is weakened. At the same time, since private export companies are mainly small to medium sized enterprises with limited mobile capital and fixed assets, Chinese state-owned banks, in general, are unwilling to offer them loans as mobile capital, for fear that the loans could not be repaid. Meanwhile, unlike foreign owned enterprises, it is also difficult, if not impossible, for private export firms to acquire loans from the international capital market. Another alternative might be for these firms to capture greater profits per unit, rather than simply churning out higher numbers of units at an increasingly slimmer marginal profit. Yet it has proven to be very difficult for private export companies, particularly small export firms located in China's coastal provinces, to climb the technology ladder, upgrade their industrial structure, and focus on producing high tech products, due to the lack of innovative capacity. Against this backdrop, if these companies do not want to go bankrupt, the only alternative for the private export companies has been to mobilize resources to lobby local

and central governmental agencies to prevent the RMB from appreciating, or at least from rising too quickly.

The political patron of China's private export companies in the manufacturing sector is the Chinese Ministry of Commerce (MOC), formerly known as the Ministry of Foreign Trade and Economic Cooperation. As a central governmental agency under the supervision of the State Council, the MOC's major duties include: formulating development strategies, guidelines and policies of China's domestic and foreign trade; guiding the work of the Chambers of Commerce for Import and Export and other relevant associations and societies; and being responsible for multilateral and bilateral negotiations on trade and economic issues. As a central governmental agency with close ties to China's tradable sector, traditionally the MOC strongly favors an undervaluation of the RMB as well as a fixed exchange rate regime in order to maintain the competitiveness of China's export sector. Since Chinese ministers accumulate administrative merits and improve their chances of advancing to a higher bureaucratic rank when the sector that they are responsible for performs well (Shih, 2008), patron-client relationship exists between the Ministry of Commerce and China's manufacturing sector, which opens a window for private export companies, in particular, to lobby the MOC. Officials in the Ministry frequently spoke on behalf of the small-to-medium sized companies in China's manufacturing sector during the working meetings held by the State Council, passing the concerns that continued currency appreciation will drive these companies into bankruptcy and in turn wreck the manufacturing sector as a whole (Yuan, 2012, Interview 11).

One popular method used by Chinese private export companies constantly is to lobby the MOC through provincial and local level Chambers of Commerce (Yuan, 2012). In China, the local interest groups representing the interests of China's export companies are organized in the form of provincial and local-level Chambers of Commerce. At present, the most influential of these are mainly located in coastal cities and provinces. Representatives in the local Chambers of Commerce mainly include entrepreneurs from export companies as well as retired governmental officials who previously held senior-level positions in the provincial and local-level Foreign Economic Relations & Trade Commissions.[10] These former provincial and municipal level governmental officials serve as middlemen to pass along the concerns of small export companies to the Ministry of Commerce.

Besides informally passing these messages through provincial and local level Chambers of Commerce, the MOC has regional branches in each province that serve as the official channel for private export firms to voice their concerns to the MOC. These branches conduct RMB stress tests and collect provincial trade data periodically to provide evidence on whether the export sector in a specific province can accommodate the pace and scale of RMB appreciation. Chinese exporters, particularly small export companies, will address their concerns to the MOC's branches in their respective provinces, so as to ensure their voice is heard by the Beijing Authority (Yuan, 2012).

Though China's private export companies in the manufacturing sector do have channels to make their voices heard by the Chinese central government, their lobbying power over the exchange-rate decision making is not as strong as other players, such as

[10] Ibid

China's state-owned banks, since the latter are institutions "within the Chinese Communist Party system" and are closer to the power center. Nownes and Freeman (1998) compare different interest groups' lobbying strategy and argue that groups without "connections" or access must resort to outside strategies such as protesting or "using" the media. Similarly, some other scholars also report that politically "disadvantaged" groups, when denied access to the legislature and the executive branch, often turn to the courts (Kluger 1977; Olson 1990; Sorauf 1976; Vose 1959). Applying this theory to the China case: Though China's manufacturing sector is large, firms in the manufacturing sector that possess the strongest incentive to lobby the government against Renminbi appreciation are private small-to-medium sized enterprises which are, compared to China's state-owned banks, farther away from China's power center. Hence, even if these firms have channels to make their voices heard, their preferences could also be easily manipulated by their political patrons, as can be illustrated by the 1997 Asian Financial Crisis case.

6.2.2 The 1998 No Devaluation Decision over the 1997--1998 Asian Financial Crisis

China made a significant reform in its exchange rate regime in 1994, pegging the Renminbi to the U.S. dollar under a 1 dollar to 8.3 Renminbi ratio. However, during the 1997 Asian Financial Crisis, many of China's major Asian trading partners devalued their currencies against the U.S. dollar, which made China lose its competitive market position. Scholars like Naughton (1999) argue that at that time, China did have strong reason to devalue its currency in order to restore the competitiveness of its export sector.

As was mentioned above, in explaining why China eventually did not devalue during the Asian Financial Crisis, Some observers and scholars believe that the Chinese

government chose not to devalue because this served their foreign policy objectives – China sought to gain kudos from its Asian neighbors who were, at that point, relying on China to maintain the value of its currency, so it would not further destabilize their economies (Liew and Wu, 2007). However, as was discussed above, foreign policy considerations were not a necessary and sufficient condition for the Chinese government's final decision. The analysis in this thesis would demonstrate that the Chinese government chose not to devalue because this policy was supported by the most powerful domestic economic groups, and the private export firms' demand for Renminbi devaluation was eventually muted by other compensatory policies offered by the Chinese government.

Unlike the United States, China's exchange rate policy is decided by its top political leaders, who usually take different central governmental agencies' opinions into consideration before making final decisions on whether to implement critical changes in China's exchange rate policy (Yuan, 2012). The Politburo Standing Committee (PBSC), China's top de facto power organ, is responsible for making the final decisions over any modification to the exchange rate policy.[11] The Committee has seven to nine ranking members. However, the majority of them do not have economic expertise and therefore, their exchange rate decisions are informed by the input they receive from the State Council (Interview 13). Therefore, the Premier, who is the head of the State Council as well as one of the ranking members in the PBSC, has the major influence over the exchange rate decision-making process (Interview 13). In its policy advisory function, the State Council collects information from various central government bureaucracies,

[11] Ibid

particularly the Ministry of Foreign Trade and Economic Cooperation (known as the Ministry of Commerce from 2003 on), the People's Bank of China (PBOC), the State Development Planning Commission (known as the National Development and Reform Commission after 2003), and the Ministry of Finance (MOF).

After the breakout of the Asian Financial Crisis, concerns from China's export sector with external competitiveness grew in the first quarter of 1998 after the Japanese yen started depreciating (Steinberg, 2012). Private small-to-medium sized export companies lobbied the hardiest towards the Ministry of Foreign Trade and Economic Cooperation (MOFTEC) over Renminbi devaluation in order to restore their international competitiveness (Interview 13). The MOFTEC favored devaluation on the basis of its long-term support towards the export sector (Liew and Wu, 2007) and passed the exporters' concerns to the State Council. However, other Ministries who have a vested interest in this process, had very different preferences.

As is stated above, the State Development Planning Commission (SPC) was another major player in the process. The most important duty of the Commission is to push forward strategic economic restructuring, to organize the formulation of comprehensive industrial policies, as well as to manage large state-run infrastructure projects. A legacy from China's planned economy era, the Commission has many more functional departments/bureaus/offices than other Ministries, making it the largest and most powerful central governmental agency in China (Interview, 15). The Commission strongly advocated no devaluation because firstly, China's leadership would have to opt for increased infrastructure spending to maintain a reasonably high economic growth rate, under the choice of no devaluation, and it would in turn allow the Commission to have

control over more resources (Liew and Wu, 2007). Moreover, since the Commission was responsible for managing large state-run infrastructure projects which involve significant foreign inputs, a devaluation of the Renminbi would have increased their foreign input costs (Liew and Wu, 2007, Steinberg, 2012).

Meanwhile, during the Asian Financial Crisis, the People's Bank of China, which is the Central Bank of China, joined the SPC arguing for no devaluation. The "Law of the People's Republic of China on the People's Bank of China," issued by the central leadership in 1995, stipulates that "…the People's Bank of China shall, under the leadership of the State Council, formulate and implement monetary policies". Hence, PBOC is mainly responsible for formulating China's monetary policy and control inflation. During the crisis, the PBOC was concerned about the effect of Renminbi devaluation over the Hongkong dollar. Many financial analysts by then, predicted that devaluation of the Renminbi would make it difficult for the Hongkong monetary authority to maintain the Hongkong dollar- U.S. dollar peg, which would in turn force a devaluation of the Hong Kong dollar.[12] The Chinese central government just restored its sovereignty over Hongkong in July, 1997. The PBOC, at that time, was indirectly responsible for maintaining the stability of Hong Kong's financial system, and therefore do not want to run the risk of destabilizing Hong Kong and make the Chinese government lose face.[13]

When it comes to the Ministry of Finance, its attitude towards devaluation was mixed. The major duties of the MOF include but are not limited to: drafting laws and

[12] Ibid
[13] Ibid

regulations on public finance, accounting management, external finance and debts, reviewing proposals on tax legislation and tax revenue regulations, as well as formulating and implementing policies, rules and regulations on managing government's domestic debts, treasury bond issuance, and government's external debts. If the government pursues a devaluation of the Renminbi, it might create inflationary pressure, resulting in an actual decline of value of the real income taxes collected, which would add further budgetary pressure over the MOF. Moreover, since MOF is responsible for maintain the government's external debts, an Renminbi devaluation would add to the burden of repaying China's foreign debts. On the other hand, if the government chooses not to devalue, the government has to offer compensatory policies such as higher export tax rebates to the export firms, and the MOF would be responsible for offering the tax rebates. Therefore, the MOF was basically indifferent between the two choices.

In sum, of the four key ministries involved in the exchange rate decision-making process, two of them – the SPC and the PBOC – favored no devaluation. With MOF having a mixed attitude, the MOFTEC, which was the political patron of the private export companies, was like "a warrior fighting a lonely battle." Eventually, what the Chinese government chose to do was to offer compensatory policies, in particular higher level of export tax rebates, to these private export firms to appease their concerns, while choosing not to devalue the Renminbi. The export tax rebates were increased for a large variety of export products throughout 1999 (Steinberg, 2012). Hence, for interest groups like private export companies, which are farther away from China's power center, they have to voice their concerns through their political patron – the MOFTEC, and if the

group is lobbying alone without having other allies, their preferences could be easily manipulated by, for instance, receiving compensations through other policy initiatives.

6.2.3 China's Banking Sector

Unlike China's manufacturing sector, the most striking feature of China's banking sector is that it has been dominated by four very large State-Owned Commercial Banks (SOCBs), namely the Agricultural Bank of China, Bank of China, China Construction Bank and the Industrial and Commercial Bank of China. The four state-owned banks, which are usually referred to as the "big four", were created in the 1980s to grant credit to key sectors and large state-owned development projects. In 1994, with the creation of the policy-lending banks, the state-owned banks' responsibilities were thereby restricted to commercial purposes, and are now commercial banks concentrating in corporate lending (Herrero, Gavilay and Santabarbaraz, 2006). Besides the four state-owned commercial banks (SOCBs), the remaining banks are joint stock commercial banks, city commercial banks, rural and urban credit cooperatives and foreign banks, whose scale of businesses is relatively small compared to the SOCBs.

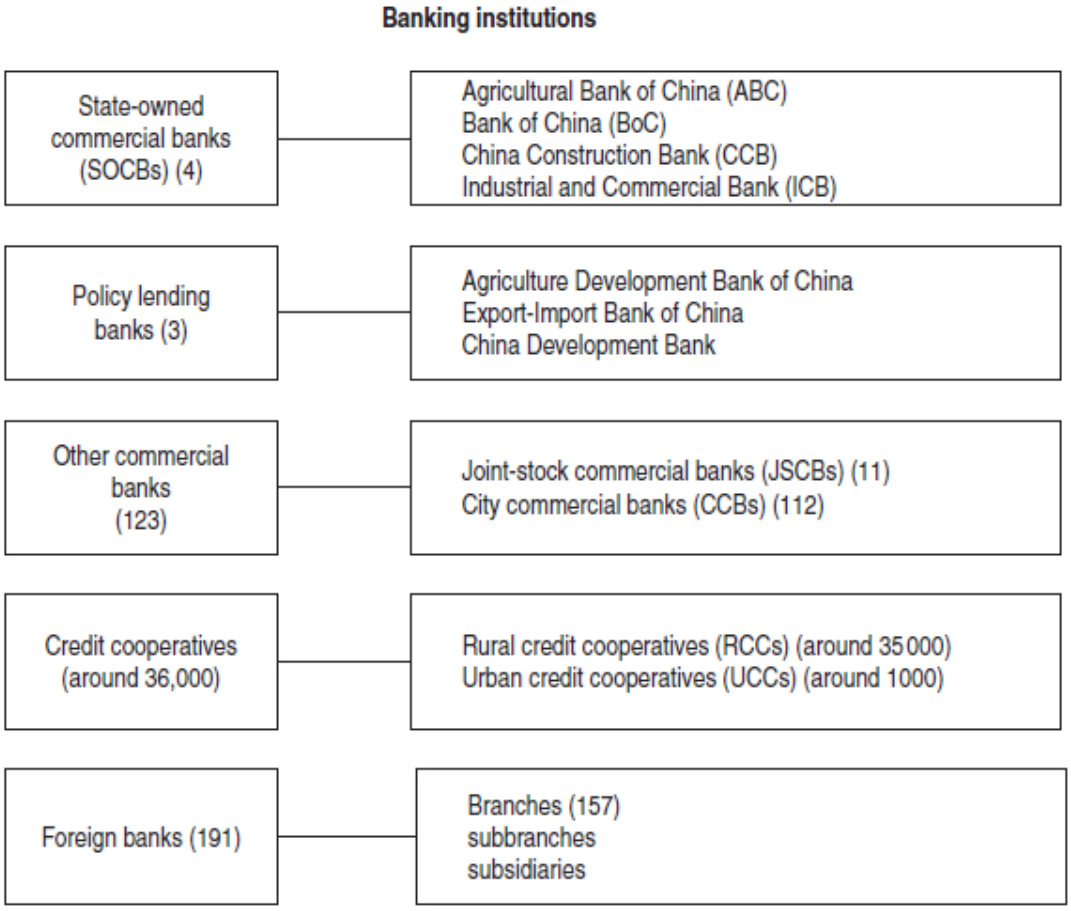

Table 2 Structure of China's Banking Sector, 2005. (Herrero, Gavilay and Santabarbaraz, 2006)

From the 1980s through 2000s, the "big four" remain to be the dominating force in China's banking sector, with their total assets accounting for 73.9 percent of the total assets in China's banking sector in 1993 and 54.6 percent in 2004. The wealth and relative importance of the "big four" enable them to possess huge political power to influence the government's policy-making process.

Another reason the four state-owned banks are able to have much stronger lobbying power than the private small-to-medium sized enterprises in China's

manufacturing sector is because under a fragmented authoritarian regime like China, state-owned banks are much closer to the power center than private firms in China's manufacturing sector. Under the Chinese Communist Party's bureaucratic system, Chairmen of these state-owned banks often outrank other Ministries, such as the Ministry of Commerce: the Organization Department of the Communist Party of China Central Committee appoints the Chairmen of these state-owned banks, and this Committee has greater political power than, for instance, the Ministry of Commerce. Hence, as an interest group, China's state-owned banks possess a much stronger lobbying power than China's manufacturing sector as they could choose to directly lobby the central leadership.

In many circumstances, the Chairmen of these large state-owned banks have considerable domestic lobbying power since many of them are also deeply involved in politics. For instance, at the 17th National Congress of the Chinese Communist Party held in 2007, China Construction Bank's chairman Guo Shuqing, Agricultural Bank of China's chairman Xiang Junbo, Industrial and Commercial Bank of China's chairman Jiang Jianqing, and Bank of China's chairman Xiao Gang were all elected as Alternate members of the Central Committee of the Communist Party of China, which is the highest authority of the CPC. Moreover, Wang Qishan, the then Vice-Premier in charge of economic, energy and financial affairs under premier Wen Jiabao, was the Chairman of China Construction Bank from 1994 to 1997. The Chairman of the aforementioned state-owned banks' high political status within the Chinese Communist Party and the deeply intertwined relationships between the state-owned banks, regulators and the

Communist Party make it easy for China's state-owned banks to wield their significant lobbying power over the leadership.

As far as China's state-owned banks' preferences towards the exchange rate regime are concerned, the "big four" are strongly against introducing more flexibility into China's exchange rate regime. During the 1997 Asian Financial Crisis, state-owned banks paid little attention to exchange rate policy (interview 15), since in late 1997, Zhu Rongji, the then Vice Premier and the de facto decision maker of China's economic and financial policy, made the decision to maintain the fixed exchange rate regime (Steinberg 2013, Interview 15). The internal policy debate in 1997 was whether China should pursue a one-time Renminbi devaluation to restore the country's export competitiveness, rather than whether to move from a fixed to a floating exchange rate regime. Therefore, state-owned banks were, in general, not concerned about the government's exchange rate policy decision at that point. By stark contrast, in 2005, the internal policy debate mainly hinged on whether China should introduce more flexibility into its exchange rate regime. Hence, the "big four" joined the manufacturing sector in arguing against the currency reform.

China's state-owned banks are against moving to a managed floating exchange rate regime, mainly due to the following reason: As was discussed in Chapter Three, according to the theorem offered by the Mundell-Fleming Model, when a country faces the choice of formulating international economic policy, an interest rate control policy, a policy of capital account restriction and a fixed exchange rate regime usually go hand in hand.

The Mundell-Fleming Model is taken from the most influential approach of balance of payments developed in the early 1960s. The model is a theoretical illustration of a policy dilemma: Simply put, the Mundell-Fleming approach suggests that a country can have at most two of the following three conditions: a fixed exchange rate, monetary policy autonomy, and capital mobility. The incompatibility between these three policy goals leads Cohen (1993) to refer to them as the "Unholy Trinity". The political implication of the "Unholy Trinity" is that if a country adopts a fixed exchange rate regime in the first place, with mobile capital, the country will lose control of its monetary policy. Indeed many economists, such as Stiglitz (2002) , argue that for emerging market economies in Asia which adopt currency pegs, the easing of controls on capital mobility was at the center of the 1997 Asian Financial Crisis. Applying the Mundell-Fleming to the China case: the Chinese central leadership becomes very cautious in opening China's capital account, for fear that the country might suffer from a currency crisis, as experienced by its neighboring countries during the 1997 Financial Crisis.

With China's currency peg and continued control over its capital account, China's domestic interest rate continues to be different from the world-level interest rate, allowing the country to continue to impose restrictions over its interest rate regime. The government sets ceilings and floors of both the lending and the deposit rates, and mandates a wide spread between bank lending and deposit rates, thereby making the nation's state-owned commercial banks the biggest beneficiary of the government's policy initiative, as they could gain a super-normal profit through this mandated spread. The mandated spread between China's bank lending and deposit rates is around 1.5 to 2.5 percentage points more than the normal spread, that is, the spread that should be

determined by market equilibrium (Knowledge@Wharton, 2010). State-owned banks thereby make use of this mandated spread to prop up their balance sheets and compensate for the non-performing loans on their balance sheet (interview 15).

If the Chinese government moves from a fixed to a floating exchange rate regime, the exchange rate would be determined, in a large part, by the market supply and demand of foreign currencies. This will require the country to lift its control of capital flows. In this case, the government has to allow the domestic interest rates to be the same, or at least very similar to the world interest rates, so as to curb interest arbitrage of global investors, which will render the commercial banks losing their privilege to enjoy the super-normal profit gained under the interest rate control policy and the capital control policy. Rogowski (1987) argues that the beneficiaries of a policy change will try to continue and accelerate it, while the victims of the same change will endeavor to retard or to halt it. Olson (1965) further notes that groups of actors with similar vulnerability profiles and relatively homogeneous preferences are much easier to organize than groups with heterogeneous preferences. This organizational advantage is further enhanced when actors sharing similar vulnerabilities concentrate along preexisting organizational lines (Olson 1965, Singer 2010). Applying the abovementioned interest group theories to the China case: Since China's state-owned commercial banks share similar competitiveness and balance-sheet vulnerabilities to changes in the interest rate and exchange rate regimes, they therefore possess a strong incentive to lobby the government not to introduce more flexibility into the exchange rate regime. The relatively homogeneous preferences also allow them to mobilize resources relatively easily based

on the preexisting organizational structure, such as their common political patron – the China Banking Regulatory Committee.

Before 2003, China's central bank – the People's Bank of China (PBoC), was responsible for both implementing monetary policy and exercise control and supervision over China's banking sector, according to the "Law of the People's Republic of China on the People's Bank of China," issued by the central leadership in 1995. However, in April 2003, the China Banking Regulatory Committee(CBRC) was established, and it took over the regulatory and supervisory functions of the banking sector so that the PBoC could concentrate on monetary policy matters (Herrero, Gavilay and Santabarbaraz, 2006). CBRC's objectives include protecting consumers and depositors as well as maintaining the stability in the banking system.

There is a deeply intertwined relationship between China's four state-owned banks and the CBRC since officials in China's state-owned banks constantly get promoted to serve as supervisory officials in the CBRC, and supervisory officials in the CBRC sometimes rotate to state-owned banks to serve as top management-level officials (interview 11). With a strong patron-client relationship, CBRC spoke on behalf of the state-owned banks during the internal debate of the 2005 currency reform, with respect to the possible difficulty banks might encounter if the government moves too rapidly in moving to a floating exchange rate regime.

6.2.4 China's 2005 Currency Reform – Limited Reform to a Managed Floating Exchange Rate Regime

China has pegged the RMB to the U.S. dollar since 1994 and, until 2005, the value of the Renminbi was virtually unchanged in U.S. dollar terms, with one U.S. dollar equaling to around 8.3 Renminbi. However, after 2002, the year following China's accession to the World Trade Organization, the U.S. bilateral trade deficit with China skyrocketed. Meanwhile, China's overall current account surplus also increased dramatically, from $US 17.41 billion in 2001 up to $US 35.42 billion in 2002, and further rise to $US45.88 billion in 2003, nearly tripled in a three year period. Hence, the Renminbi's value became a significant trade issue between China and the United States. Many U.S. legislators attributed the huge U.S. trade deficit to China's supposed manipulation of the Renminbi to gain an unfair advantage in trade (Freeman and Yuan, 2010). In response, in September, 2003, Senator Charles Schumer introduced the first Congressional Bill seeking to put pressure over the Chinese government to appreciate its currency, and move to a market-based floating exchange rate regime. The bill announced that the Renminbi was artificially pegged at a level significantly below its market value, and argued that since economists estimated the Renminbi to be undervalued by between 15 percent and 40 percent or an average of 27.5 percent, the United States Treasury, in consultation with the United States Trade Representative (USTR), should begin negotiations with China to ensure that the Chinese government adopted a process that led to a market-based system of currency valuation. The bill also proposed that if China refuses to take actions, there should be imposed a rate of duty of 27.5 percent ad valorem on the manufacturing products from China imported directly or indirectly into the United States (Library of Congress Archive, 2003). After the issuance

of this bill, a number of similar bills were introduced in Congress seeking to put pressure on the Chinese government to appreciate its currency.

While the Congress focused more on pushing China to appreciate the Renminbi, hoping to correct for the trade imbalances between China and the U.S., the U.S. Treasury Department emphasized more on moving China to a market-based floating exchange rate regime. During the U.S. Treasury Secretary John Snow's visit in Beijing in 2003, Snow stated clearly that his objective was to get China to commit to moving to a "free-floating" currency (Goldstein and Lardy, 2003).

With the mounting pressure from the U.S. to push China to conduct reforms over its exchange rate regime, there was also an internal policy debate within the Chinese leadership circle as to whether China should pursue a one-time revaluation to appease the U.S. concern, or China should instead gradually introduce more flexibility into its exchange rate regime. The one-time revaluation proposal was rejected since in order to appease the U.S. concern, the Renminbi needed to revalue by at least 15% to 20% immediately, and the Beijing leadership circle, including the then premier Wen Jiabao and the first Vice Premier Huang Ju, all believed that an abrupt revaluation would wreck China's exports and result in speculative inflows just as Japan experienced at the beginning of the 1990s after the Plaza Accord, when the Japanese Yen was forced to appreciate against the U.S. dollar (Freeman and Yuan, 2010; interview 11). As a matter of fact, the discussion within the central leadership centered on whether China should end the currency peg, and if so, to what extent should China introduce flexibility into its exchange rate regime.

In theory, moving to a floating exchange rate regime does not equate with an automatic Renminbi appreciation. However, given China's huge trade surplus and the ensuing rapid accumulation of foreign reserves, the wide market expectation in early to middle 2000s was that the end of China's currency peg to the U.S. dollar would result in Renminbi appreciation (Liew and Wu, 2007). Different domestic actors thereby raised their concerns during the government's internal policy debate.

The first major institutional player is the Chinese Ministry of Commerce, known as the MOFTEC before 2003. The major duty of the MOC remains to be formulating policy on foreign trade, as well as being responsible for negotiating China's bilateral and multilateral trade agreements. Since it is widely expected that the Renminbi would appreciate when ending the currency peg, private export firms in China lobbied the hardest towards the MOC, and the MOC spoke on behalf of its client against the currency reform (Steinberg, 2013).

The major difference between the 1997 and 2005 cases is that during the 2005 currency reform, the manufacturing sector managed to secure a natural ally to argue against the currency reform, which is China's state-owned banks. As was discussed above, China's state-owned banks are strongly against moving to a floating exchange rate regime, worrying that the ensuing liberalization of capital flows and the interest rate regime would render them losing the super-normal profit that they enjoy.

Another reason that the state-owned banks are against the currency reform is that with the gradual appreciation of the Renminbi after ending the currency peg, these state-owned banks' capital-asset ratio would be worsened. As can be seen from Table 3

below, the ratio of non-performing loans (NPL) in China's state owned banks remains to be around 20% at the end of 2003, indicating very poor asset quality.

(Table 3 Below – NPL Ratio as a Percent of Total Loans)

	Loans Outstanding		NPL ratio	
	as of	USD billion	(% of total loans)	% of GDP[a]
State-owned commercial banks	Dec-03	232	20	17
Joint-Stock Commercial Banks	Mar-04	23	7	2
Policy Banks	Jun-03	19	18	1
Credit cooperatives	Mar-04	60	30	4
Banking system total	Dec-03	373	19	28
Asset management companies	Dec-03	107	–	8
Financial system total	Mar-04	480	–	36

Source: Herrero, Gavilay and Santabarbaraz, 2006

In order to clean up the four state-owned banks' balance sheets, at the end of 2003, the Chinese government injected US$22.5 million into the China Construction Bank and the Bank of China. These injections came directly from the country's official international reserves, through the transfer of rights of ownership of US government bonds (Herrero, Gavilay and Santabarbaraz, 2006). Moreover, in April 2005, the Chinese government further injected US$ 15 billion into the Industrial and Commercial Bank of China (ICB), aiming to clean up ICB's balance sheet. Since the injected amounts were all in the form of foreign reserves denominated in the U.S. dollars, an appreciation of the Renminbi against the U.S. dollar after ending the currency peg would mean that the real

value of the injected amount would shrink, and would in turn worsen the state-owned banks' balance sheets, and increase the likelihood of more NPLs, adding further burden to the bank restructuring process.

The third reason why China's state-owned banks are against introducing more flexibility into the exchange rate market is because with the Renminbi's peg to the dollar, banks do not need to face potential risks in the exchange rate market. However, if the Chinese government decides to introduce more flexibility into the exchange rates, banks need to develop various kinds of exchange rate derivatives to hedge possible market risks (Interview 4). With a high ratio of non-performing loans and a poor capital-asset ratio in China's state-owned banks, these banks were not ready to be involved in market-oriented risk management activities to hedge against potential exchange rate risks (Interview 4).

Under the abovementioned circumstances, Chairmen of the state-owned banks constantly voiced their concern during the State Council's working group meetings about the difficulty banks would encounter if the currency peg ends. The major arguments offered by the state-owned banks were that firstly, moving to a floating exchange rate regime would further worsen the banks' balance sheets, and secondly, since China's foreign exchange market is not well-developed, banks lack possible tools to hedge exchange rate risks. Moreover, as the political patron of the state-owned banks, the CBRC also voiced its concern on behalf of the state-owned banks, arguing that liberalizing the exchange rate regime would put further pressure over the bank restructuring program.

Another major institutional player in the 2005 currency reform was the National Development and Reform Commission, formerly known as the State Development and Planning Commission (SPC). In 2003, SPC was merged with the State Council Office for Restructuring the Economic System (SCORES) and part of the State Economic and Trade Commission (SETC). The merge makes NDRC more influential, and let the Ministry gain greater responsibility and power in overseeing China's economic and social development.

With the NDRC incorporating SCORES, the Ministry is able to stamp its influence on macroeconomic policymaking through its research into the social and political impacts of macroeconomic policy (Liew and Wu, 2007). Unlike Jiang Zemin's era in the 1990s, the then Chinese President Hu Jintao and Premier Wen Jiabao shifted their policy focus into addressing rural poverty and income inequality, in order to "create a harmonious society". Since NDRC was also responsible for supervising programs relevant to social development after the merge, the NDRC was concerned that an appreciation of the Renminbi after the currency peg ends would disadvantage China's agricultural sector by reducing agricultural exports. Moreover, as the NDRC remained to be responsible for overseeing China's state-owned large infrastructural projects, moving to a floating exchange rate regime without the existence of a mature exchange rate market would make it difficult for the NDRC to hedge against possible exchange rate risks. Therefore, the NDRC joined the MOC and the CBRC in arguing against a too rapid move towards a floating exchange rate regime.

The Ministry of Finance (MOF) was also in the camp of arguing against moving towards a floating exchange rate regime, for the following reasons: first, by 2005, sub-

national governments had borrowed loans whose values equal to RMB 141 billion from the MOF, and had been struggling in repaying these loans (Liew and Xu, 2007). MOF had tried to recover these loans. However, if the government introduced more flexibility into the exchange rate regime, the export sector in China's coastal provinces would be negatively affected, which would in turn worsen the budgetary situation of the sub-national governments in China's coastal provinces. As a consequence, it would become more difficult for the MOF to recover these loans from the coastal provinces. Second, since Renminbi had been undervalued, introducing more flexibility into the exchange rate regime would render a gradual Renminbi appreciation. In order to avoid wrecking China's export sector, the central leadership would probably arrange to offer compensations to China's export companies, such as export tax rebates and other subsidies. The MOF would be responsible for offering export tax rebates and subsidies, which would in turn add further budgetary pressure to the MOF. Finally, MOF was in charge of a large part of China's assets overseas, which was denominated in U.S. dollars. If the Renminbi gradually appreciates, the value of China's assets overseas would shrink. As a matter of fact, the officials in the MOF would be criticized for not being able to manage China's overseas assets properly (Interview 12). Due to the abovementioned reasons, the MOF also possessed a strong incentive to argue against moving to a floating exchange rate regime.

The only Ministry-level agency that argued for the currency reform is the People's Bank of China (PBoC). The first reason the PBoC had been the main backer of China's currency reform is that one of its major duties is to control inflation, and flexible exchange rate policies would be a significant tool in fulfilling this duty. Starting from

2002, China's trade surplus had ballooned and with it, inflationary pressures had mounted (Freeman and Yuan, 2011). Meanwhile, with China's rapid productivity growth, the rate of capital return in China became higher than the rate of capital return in the United States. With the Renminbi's peg to the dollar, a large amount of speculative capital denominated in U.S. dollars flowed into China hunting for investment gains. Therefore, China was running a huge current account surplus as well as suffering from "hot money" inflows in its capital account, which is called the "dual surplus."[14] In order to maintain the RMB's peg to the dollar, the PBoC had no choice but to purchase all the extra U.S. dollars circulated in the system, place them on its balance sheet, and issue equivalent RMB, leading to an increase in the money supply in China. The PBoC therefore had to sterilize the increase in the domestic money supply to prevent the growing liquidity in China's financial system from yielding severe inflation.[15]

To temporarily mitigate the inflationary pressure and soak up some excess liquidity, the sterilization method taken by the PBoC starting from 2003 was to issue central bank bills --- a government-backed investment instrument for Chinese individuals --- to absorb the excess Renminbi circulating in the financial system. However, the PBoC's sterilization method did incur huge hidden costs and risks. First, the assets on the PBoC's balance sheet are mainly in the form of foreign reserves, while its liabilities are in Renminbi and its central bank bills. The PBoC was using foreign reserves mainly to purchase U.S. Treasury Bills with an annual return of less than 3 percent, while the annual interest rate the PBOC had paid on its liabilities, that is, on the central bank bills, was more than 3 percent. As can be seen from the table below, the amount of China's

[14] Ibid
[15] Ibid

foreign reserves more than tripled from 2000 to 2005. With the growing amount of foreign reserves accumulated, it became more and more difficult for the PBoC to operate the sterilization process. Therefore, the PBoC argued for introducing more flexible into the exchange rate regime, hoping that a gradual Renminbi appreciation could relieve its burden over sterilization.

(Table 4 Below)

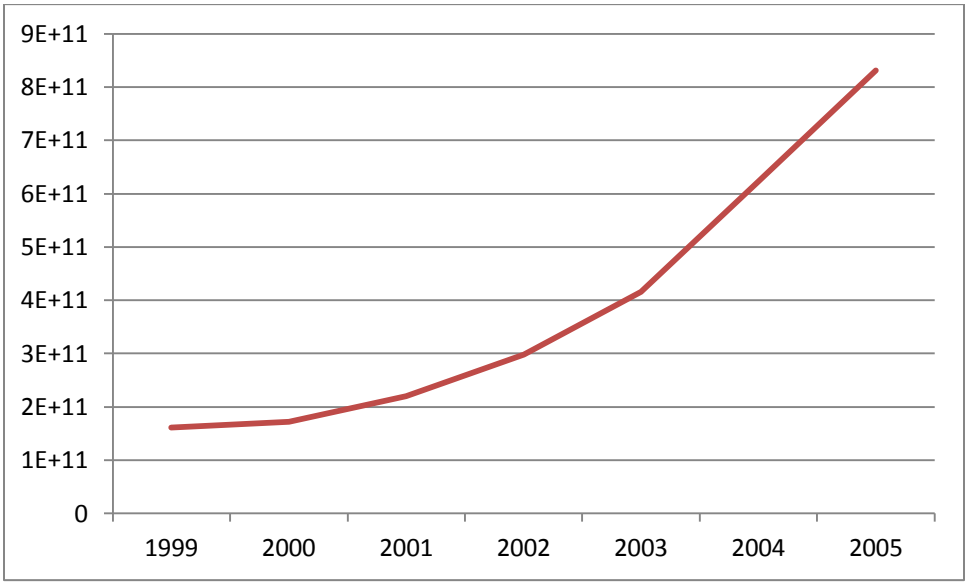

Table 4 China's Foreign Reserves (in U.S. dollar terms) from 1999 to 2005 (Data Source: World Bank)

Another reason why the PBoC was pushing for currency reform is that under the Renminbi-dollar peg, the bank could not handle the large amount of speculative capital inflows into China betting for future Renminbi appreciation. The large amount of arbitrage capital inflows into China, in the form of dollar-denominated assets, heavily

undermined the effectiveness of PBoC monetary policy. Hence, PBoC became the only agency arguing for the currency reform. However, in the 2005 currency reform, PBoC faced the strong ally of the manufacturing sector coupled with the state-owned banks. Meanwhile the NDRC and the MOF also stood by their side. Therefore, eventually the Chinese central leadership only made very limited concessions under the enormous U.S. pressure: In 2005, the Chinese premier Wen Jiabao eventually announced initiating China's currency reform -- moving toward a managed regime that would allow the Renminbi to float against a basket of currencies within a certain range. However, the daily floating band of the exchange rate against the U.S. dollar was set at +/- 0.3% of the central parity published by the PBoC (Yang, 2006), indicating a de facto triumph of the manufacturing sector – banking sector ally.

6.2.5 The 2010 Case of Resuming a Managed Floating Regime

After the first step in China's currency reform is 2005, the Renminbi gradually appreciated against the U.S. dollar, from 8.3 Renminbi per dollar in 2005 to 6.83 Renminbi per dollar in 2008. In 2008, amid the global financial crisis, the Chinese government decided to resume the Renminbi's fixed peg to the dollar, and the currency was pegged at about 6.83 per dollar beginning July, 2008. However, on June 19, 2010, the People's Bank of China (PBoC), announced with much fanfare that China would allow the resumption of the Renminbi's (RMB) steady appreciation against the dollar through "a managed floating exchange rate regime" tied to a basket of currencies. Upon the announcement, speculation had focused on why the Chinese central leadership decided to make such a decision, as well as to the future of China's currency reform.

Similar to the cases of 1997 and 2005, there was a fierce internal debate within the Chinese central leadership as to whether the Renminbi should resume a gradual appreciation against the U.S. dollar. China's export companies, particularly the small-to-medium-sized private enterprises, continued to lobby their political patron – the Chinese Ministry of Commerce (MOC), arguing that the resumption of the Renminbi appreciation would drive down the profits of these companies, and the ensuing laid-off of workers would possibly lead to social instability. However, in 2010, MOC officials' incentives to continue speaking on behalf of exporters diminished dramatically, mainly due to a major shift in the Chinese government's overall economic policy initiative. China has been relying mainly on its export sector to boost its economic growth rate. However, the 2008 financial crisis had an immediate negative effect on demand for Chinese exports and thus threatened China's economic trajectory significantly (Freeman and Yuan, 2012). China did recover quickly, largely as a result of a dramatic, carefully-targeted stimulus package, but confidence within the central leadership in the sanctity of international markets as the star to which China should hitch its wagon was badly damaged (Freeman and Yuan, 2012). Therefore, the majority of the ranking members in the Politburo Standing Committee (PBSC), China's de-facto power organ, gradually formed a consensus that China should not expose itself too extensively to the vagaries of the international markets, but in turn should rely, at least in part, on stimulating domestic consumption to boost its economic growth rate (Interview 21). The abovementioned ideology was reflected clearly in China's 12th Five Year Plan, which was officially released in March, 2011. In this plan, transforming the economic model was one of the most important tasks for the Chinese government in the next five years. The plan declared that China would continue

its pace of transitioning to an economy driven mainly by domestic consumption instead of exports. In order to achieve this goal, the plan mapped out different economic tools that the Chinese government would adopt to orchestrate higher consumer spending. These tools to spur domestic demand include: improving the social welfare network; boosting wages and creating new jobs; promoting urbanization and supporting affordable housing; adjusting taxes; strengthening China's domestic trade network and increasing consumer goods imports.

With the policy shift within the central leadership that focused more on boosting domestic consumption after the 2008 financial crisis, the MOC received various kinds of support from the central leadership to improve China's domestic trade. It is worth pointing out that the MOC's duty is not only to be responsible for China's foreign trade, but domestic trade as well. The overall mission of the MOC includes but are not limited to: formulate the strategies, guidelines and policies of developing domestic and foreign trade and international economic cooperation, draft the laws and regulations governing China's domestic and foreign trade, as well as to formulate development plans for China's domestic trade, so as to foster and develop China's urban and rural markets (Official Website of the MOC).

Since the MOC is also responsible for China's domestic trade, a transformation in China's economic development model benefits officials in the MOC in the sense that they can win political commendations through boosting domestic trade. In June, 2009, the State Council approved MOC's proposal of boosting domestic trade of automobiles and household appliances. According to the announcement, central government and various different local governments, were required to provide subsidies to domestic

enterprises which sell automobiles and household appliances, encouraging them to sell automobiles and household appliances to China's rural area at below-the-market prices, in order to facilitate domestic consumption (Official Website of the MOC). In January, 2010, the MOC, together with the Ministry of Finance and the Ministry of Industry and Information Technology, jointly issued a notice stating that local governments should strength their efforts in facilitating domestic consumption of household appliances. In particular, there should be widespread price ceilings imposed for household appliances such as color TV, refrigerators (including freezers), mobile phones, washing machines, computers, air conditioners and water heaters, so that these products could be made affordable to households in rural areas. Meanwhile, the central government pledged to continue subsidizing the local governments in boosting domestic trade on household appliances (Official Website of the MOC). Officials in the MOC therefore gained substantial political capital through their efforts in formulating plans to boost China's domestic trade, rendering less of an interest in continuing lobbying for exporters.

Moreover, when it comes to China's state-owned banks, though they were still opposed to moving to a completely floating exchange rate regime, they were no longer against introducing some flexibility into China's exchange rate regime, for the following reasons: first, following the gradual introduction of more flexibility into China's exchange rate regime starting 2005, the Chinese central leadership also took steps into internationalizing the Renminbi, including expanding the use of the Renminbi in the settlement of cross-border and international trade and developing an offshore currency market. As China's currency was already being used in trade and current account transactions in Southeast and Central Asia, as well as in Hong Kong and Macau, in

December 2008 the State Council of China decided to formalize such transactions by launching two pilot schemes to allow selected companies to settle trade using the Renminbi in place of the dollar (Murphy and Yuan, 2009).

One scheme was centered on trade between China's export engines the Pearl River Delta and Yangtze River Delta and Hong Kong and Macau. The other scheme covered trade between Yunnan and Guangxi and the Association of Southeast Asian Nations (ASEAN) (Murphy and Yuan, 2009). Coupled with encouraging the use of the Renminbi in cross-border settlement, the Chinese government also started to develop an offshore currency market to support Renminbi internationalization. In 2007, the China Development Bank released the first Renminbi denominated bond in Hong Kong. Since then, Chinese state-owned banks were allowed by the government to issue Renminbi denominated bonds in Hong Kong, and had made significant gains through the offshore Renminbi businesses (Interview 20). Given the aforementioned circumstances, China's state-owned banks were concerned that if the government decides to return to a completely fixed exchange rate regime, the development of the offshore Renminbi market might also come to an end, which would render the state-owned banks losing potential profits from the offshore Renminbi market (Interview 20).

Second, compared to the case in 2005, China had finished its bank restructuring process well before the breakout of the 2008 financial crisis, and the overall financial risks in China's banking system decreased dramatically. Therefore, a gradual appreciation of the Renminbi no longer posed a threat to banks' balance sheet.

During the internal debate as to whether to resume the gradual appreciation of the Renminbi, China's state-owned banks, as well as its political patron – the China Banking Regulatory Commission (CBRC), were still against moving to a completely floating exchange rate regime, arguing that a floating exchange rate regime coupled with capital mobility would render the possible breakout of a financial crisis. However, China's state-owned banks and the CBRC were not against the resumption of a managed floating exchange rate regime, given the fact that the gradual development of the offshore Renminbi market is profitable to state-owned banks.

In the 2010 case, the PBoC and the NDRC (the National Development and Reform Commission) continued to be two major institutional players in the internal debate. Similar to the situation in 2005, as the central bank of China, the PBoC consistently advocated for the appreciation of the Renminbi. As was discussed in the previous Chapter, since one of the PBoC's major duties is to control inflation, flexible exchange rate policies would be a significant tool in fulfilling this duty. Moreover, a one-time appreciation of the Renminbi to the market level could curb the continuous speculative capital inflows into China, hence underscoring the effectiveness of the PBoC's monetary policy (Yuan, 2012).

The NDRC also continued to be a crucial player. Since the most important duty of the NDRC is to push forward strategic economic restructuring, to organize the formulation of comprehensive industrial policies, as well as to coordinate industrial development with relevant plans, the NDRC was the major policy implementing agency of China's twelfth five-year plan. Besides the central leadership's pledge to boost domestic consumption, the twelfth five-year plan also declared that the government

would propel the development of strategic emerging sectors, such as biotechnology and alternative energy sectors to finally achieve the goal of medium-and-long-term energy conservation. Meanwhile, the plan emphasized on reducing the scale of production of low value-added and high emission-intensity export commodities. China's low-end export sector had long been perceived as being responsible for producing high emission-intensity commodities. Therefore, in order to successfully implement the twelfth five-year plan, the NDRC became a natural ally of the PBoC favoring the appreciation of the RMB, with the aim of eventually reducing the scale of China's low-end export sector.

With the manufacturing sector losing its natural ally of the banking sector, as well as the unwillingness to the MOC to speak on behalf of the private enterprises in the manufacturing sector, the balance of the internal debate of the currency policy was tilted towards the "resuming the managed floating exchange rate regime" camp.

6.3 China's Currency Reform in a Broader Context: Variation in Policy Outcomes

After comparing the three different cases on interest group influence over China's currency policy, the outcome of the three cases are summarized in the Two*Two matrix below:

Preferences of Political Patrons (Different Ministries)

Interest group strength		Strong	Weak
	Strong	**2005 (Easy to Block a Policy Change)**	
	Weak	**1997 (Difficult to Facilitate a Policy Change)**	**2010 (Easy to Facilitate a Policy Change)**

As could be seen above, variance in the two left cells demonstrate the difference with respect to interest group strength. Though in the 1997 and 2005 cases, the political patron of the export sector – the Chinese Ministry of Commerce, possessed strong desire to speak on behalf of the export sector, in the 1997 case, the export sector failed to push for a policy change to devalue China's currency (which benefited the export sector), while in the 2005 case, the export sector successfully blocked a change towards moving to a market-determined exchange rate regime. The difference here is that in the 2005 case, the manufacturing sector won a natural ally of the banking sector, and the increased interest group strength contributed to the difficulty of implementing a policy change.

Meanwhile, when comparing the 2005 and the 2010 case, the 2010 case fits into the lower-right cell, with the manufacturing sector losing its natural ally of the banking sector as well as the change in MOC's preferences -- the MOC becoming reluctant to speak on behalf of the manufacturing sector, eventually the Chinese leadership made a policy shift again –- resuming the gradual appreciation of the Renminbi.

The fact that the three cases took place in the same country and focused on the same policy area makes possible a structured comparison across the three cases. Arguably there is a high degree of internal validity here. Therefore, a conclusion could be safely drawn upon here: in authoritarian regimes like China, whose central banks are not independent from the government, the stronger the interest groups are arguing for manipulating the exchange rates, and the stronger the preferences of their political patrons over manipulating the exchange rates, then the more likely the exchange rate will be manipulated. However, the exchange rate is less likely to be manipulated if the political patrons' preference over currency manipulation weakens.

Chapter 7: Conclusion

7.1 The Future of China's Exchange Rate Policy

After the resumption of gradual Renminbi appreciation to the dollar in 2010, the Chinese government gradually took steps to further liberalize the capital account and cross-border financial transactions. In February 2012, the PBoC released a report indicating that the timing is mature for China to open its capital market, offering a clear signal that the central leadership is planning big changes. In May, 2013, a paper co-written by a senior researcher at the People's Bank of China said the central bank aims to make the Renminbi fully convertible under the capital account by the end of 2015 (Davis and Wei, 2013). Meanwhile, Chinese central bank governor Zhou Xiaochuan openly announced in June 2013 that China would speed up the opening up of its capital account, though he also noted the process would be flexible enough to re-impose restraints in the event of big speculative capital flows (Davis and Wei, 2013). Furthermore, in August 2013, China's State Council approved a free-trade zone in Shanghai as a testing ground for liberalizing cross-border financial transactions and currency flows.

Coupled with the central leadership's cautious steps towards capital account liberalization, it is also clear that the MOC's willingness to speak on behalf of the export companies continue to diminish. After the release of China's 12th Five Year Plan, the MOC's official website further issued an announcement in November 2011 stating that a development plan for China's domestic trade during the 12th Five-Year Plan period (2011-2015) is being formulated. "This is the first time China has formulated a plan for domestic trade development in its history," said Commerce Minister Chen Deming. The plan stipulates clearly that by 2015, the volume of retail sales should double compared to

2010. In order to achieve this goal, the MOC would implement more than thirty different industrial plans, of which the majority would receive financial support from the central government (Yuan, 2012). With officials in the MOC continue to emphasize on expanding domestic trade to win political capital for future promotion, it is highly unlikely that they would continue speaking on behalf of the private export companies.

Though it is obvious that China is taking steps towards a gradual opening of its capital account, it is still highly unlikely that China would soon move to a completely floating exchange rate regime, since China's banking sector is not fully prepared to accept capital flowing freely into and out of China. The China Banking Regulatory Commission (CBRC) which is mainly responsible for monitoring the healthiness of China's financial sector, is the governmental agency that worries the most of possible financial crisis (Interview 26). The CBRC opines that the reason why China never suffers from a financial crisis again after 1997 is because of the cautiousness of allowing capital mobility (Interview 26). Moreover, in a recent report released in 2013 by the International Monetary Fund, the IMF also warns that a speedy liberalization of cross-border capital movements could produce over several years net outflows from China equal to as much as 15% of the country's GDP, roughly $1.35 trillion, which would in turn pose a threat to China's overall macroeconomic stability, if not handled properly. Therefore, it is anticipated that in the future, domestic politics would continue to play an important role in China's exchange rate decision-making process, and China's move towards a more market-determined exchange rate regime would be slow and cautious.

7.2 Theoretical Contributions, Policy Implications, and Further Research

The methodology used in this thesis is a mixture of quantitative and qualitative analysis. The quantitative analysis proves that large manufacturing sectors, stronger interest rate control and more intensified capital account liberalization are correlated with a longer duration of fixed exchange rate regimes, and the manufacturing sector is more likely to favor currency undervaluation when a country's level of interest rate control is strong. The strength of the quantitative analysis is that the abovementioned research findings could be generalized to the 11 Asian countries being analyzed, as well as possibly to other countries with similar features. However, the regression models alone could not tell how different countries' manufacturing sectors as well as banking sectors' preferences towards exchange rate regimes are translated into policy outcomes. Moreover, one of the major research goals of this thesis is to prove that in non-democratic regimes, interest groups still have various ways to influence the government's exchange rate decision-making process. Hence, this thesis analyzes an additional China case comprehensively, and describes, in rich detail, the interest group influence over the exchange rate decision-making process in a typical non-democratic context. By using a mixture of methods, this thesis draws on the complementary strengths of both types of research, and in turn not only adds theoretical contributions to the current literature, but also generates significant policy implications.

This study also makes theoretical contributions about the role of interest groups: First, the findings suggest that interest group theories could not only be applied to trade policy, but also to the exchange rate policy. Helleiner (2005), Gowa (1988), Krasner (1978) and McNamara (1998) all argue that compared to trade policy, exchange rate

policy makers are more insulated from interest group pressure, and therefore, interest groups exert less influence over exchange rate policies than over trade policies. However, my research, including the quantitative analysis as well as the China case study, all indicates that different interest groups, such as the manufacturing sector and the banking sector of different countries, could identify their preferences over the exchange rate policy clearly, and in turn exert their influence through different channels over the exchange rate policy makers, so as to protect their respective vested interests.

Second, the China case study analyzed in this thesis illustrates that interest group theories could be applied not only to democratic regimes, but also to non-democratic regimes like China. As can be seen from the case study, domestic political actors play an important role in China's exchange rate decision-making process, and different interest groups do have various kinds of methods to make their voices heard. However, economic groups, such as China's private enterprises who are further away from the power center, would have to rely on their political patrons to pass along their concerns, and therefore are less likely to influence the central leadership's decision making process than groups who are closer to the power center, such as China's state-owned banks. Another implication from the China case study is that China's exchange rate decision-making process, and foreign economic policy decision-making process in general, depend in large part upon China's domestic politics. Therefore, when analyzing China's foreign economic policy, IPE theories should incorporate a domestic politics dimension.

Besides theoretical contributions, the findings in this thesis also have significant policy implications. since it would indicate that introducing more flexibility into China's exchange rate regime will require China to 1) restructure its economy, reduce the scale of

its export sector and rely more on domestic consumption to boost its economic growth; 2) open China's capital market and introduce more flexibility into China's interest rate regime and 3) balance the interests of different ministries and industrial sectors so that the country could continue pushing forward the currency reform. Meanwhile, it is worth noting that though China is a typical case on how difficult it is for a country to move from a fixed to a floating exchange rate regime, there is still some limitation in generalizing the China case to other countries because after all, China is the second largest economy in the world with a huge export sector. Hence, it might be difficult to generalize the China experience to other small economies and economies with a small or moderate-sized export sector. Further research should focus on analyzing other smaller economies such as Vietnam and economies with a small or moderate-sized export sector, such as India, to make a comparison between different countries.

Appendix 1

For the China case study of this thesis, I conducted 26 interviews and off-the-record conversations. My interviewees include officials who worked at the People's Bank of China, China Banking Regulatory Commission; researchers who work at the Shanghai Pudong Development Bank, Industrial and Commercial Bank of China; exchange rate experts from the School of International Relations and School of Economics at the Shanghai Fudan University; exchange rate experts from the Shanghai University of Finance and Economics; researchers and policy analysts from the China Academy of Social Sciences, Shanghai Academy of Social Sciences, the CEIBS Lujiazui Institute of International Finance, as well as a policy advisor to the State Council. The abovementioned interviewees offer valuable insights on the preferences of China's manufacturing sector, banking sector, as well as different Ministries over the exchange rate regimes, and how their preferences change over time.

Meanwhile, my interviewees also include diplomats working for the U.S. Department of State, Department of Treasury and the United States Trade Representative Office. Two of them were directly involved in negotiating with China over the exchange rate policy. These interviewees provide valuable insights as to how international pressure plays a role in the Chinese government's exchange rate decision-making process.

Information received from interview sources, along with the information from official government and central bank documents which are available online, official statistics, and existing literature, form the informational basis of the China case study of this thesis.

References

Abiad, Abdul, Enrica Detragiache, and Thierry Tressel. 2008. *A New Database of Financial Reforms.* IMF Staff Proposals 57(2): 281-302.

Alesina, A., V. Grilli, And G. M. Milesi-Ferret, 1994, The Political Economy of Capital Controls, In Capital Mobility: The Impact on Consumption, Investment, and Growth, edited by L. Leiderman and A. Razin. Cambridge: Cambridge University Press.

Allison, Graham, and Philip Zelikow, 1999, *Essence Decision – Explaining the Cuban Missile Crisis,* Addison-Wesley Educational Publishers Inc.

Ashenfelter, O., and S. Jurajda, 2001, *Cross-country Comparison of Wage Rates: The Big Mac Index,* Unpublished paper, available at http://economics.uchicago.edu/download/bigmac.pdf

Bachrach, Peter and Morton S.Baratz, 1962, Two Faces of Power, *American Political Science Review*

Baumgartner, Frank R., Jeffrey Berry, Marie Hojnacki, David Kimball, and Beth Leech, 2009, *Lobbying and Policy Change: Who Wins, Who Loses, and Why,* Chicago: University of Chicago Press.

Bearce, David H., and Mark Hallerberg. 2011. *Democracy and De Facto Exchange Rate Regimes.* Economics & Politics 23(2): 172-194.

Becker, Gary S., 1983, *A Theory of Competition among Pressure Groups for Political Influence,* Quarterly Journal of Economics 98: 371-400

Box, Janet and Bradford S. Jones, 2004, *Event History Modeling: A Guide for Social Scientists,* Cambridge University Press

Broz, J. Lawrence. 2002. *Political System Transparency and Monetary Commitment Regimes.* International Organization 56 (4): 861-887

Broz, J. Lawrence and Jeffry A. Frieden. 2001. *The Political Economy of Monetary Relations.* Annual Review of Political Science 4: 317-343

Catao, Luis, 2007, *Why Real Exchange Rate?*, IMF Working Proposal

Cheng, Dazhong, *Product-Destination Portfolio and Dynamics by Firm Ownership and Trade Mode: Evidence from Chinese Industrial Exporters*, China and World Economy, Vol. 20, No. 5, 2012, pp.21–36.

Chinn, Menzie and Hiro Ito, 2008, *A New Measure of Financial Openness, Journal of Comparative Policy Analysis ,* Volume 10, Issue 3, p. 309 - 322.

Cline, William and John Williamson, 2007, *Estimates of the Equilibrium Exchange Rate of the Renminbi: Is There a Consensus and, If Not, Why Not?*, Proposal presented at the Conference on China's Exchange Rate Policy, Peterson Institute, Washington DC

Cohen, Benjamin, 1993, *The Triad and the Unholy Trinity: Lessons for the Pacific Region,* In Pacific Economic Relations in the 1990s, edited by R. Higgott et al. London: Allen and Unwin.

Darvas, Zsolt . 2012. *Real effective exchange rates for 178 countries: A new database*, Working Proposal 2012/06, Bruegel, 15 March 2012

Eichengreen, Barry. 2007. *The Real Exchange Rate and Economic Growth. Presented at the World Bank Growth Commission.* New York City, April 9, 2007.

Fearon, J. D. 1994. *Domestic political audiences and the escalation of international disputes.* American Political Science Review, 88, 577-592.

Frankel, Jeffrey. 1997. *Sterilization of Money Inflows: Difficult (Calvo) or Easy (Reisen)* Estudios de Econom á 24(2): 263–285.

Freeman, Charles & Wen Jin Yuan, *China's Exchange Rate Policy in the Post-Crisis Era*, Freeman Briefing Report, Center for Strategic and International Studies

Frieden, Jeffry A. 1991. *Invested Interests: The Politics of National Economic Policies in a World of Global Finance.* International Organization 45 (4): 425-451.

Frieden, Jeffry A. 2002. *Real Sources of European Currency Policy.* International Organization 56 (4): 831-860

Frieden, Jeffry, David Leblang, and Neven Valev. 2010. *The Political Economy of Exchange Rate Regimes in Transition Economies.* The Review of International Organizations 5(1): 1–25.

Garrett, G., 1988, *Global Markets and National Politics: Collision Course or Virtuous Cycle?,* International Organization 52: 737-774

Goldstein, A., 2005, *Rising to the Challenge*. Palo Alto, CA: Stanford University Press

Grimes, W., 2009, *Currency and contest in East Asia*, Ithaca, NY: Cornell University Press.

Hale, David & Lyric Hughes Hale, 2003, *China Takes Off*, Foreign Affairs, November/December Issue. Available Online at: http://www.foreignaffairs.com/articles/59365/david-hale-and-lyric-hughes-hale/china-takes-off

Henning, C. Randall, 1994, *Currencies and Politics in the United States, Germany and Japan, I*nstitute for International Economics, Washington D.C.

Herrero, Alicia Garcıa & Sergio Gavilay, Daniel Santabarbara, 2006, *China's Banking Reform: An Assessment of its Evolution and Possible Impact,* CESifo Economic Studies, Vol. 52, 2/2006, 304–363

Jaggers, Keith, and Ted R .Gurr. 1995. "*Tracking Democracy's Third Wave with the Polity III Data.*" Journal of Peace Research 32(4): 469

Jiang Y., 2008, *Australia-China FTA: China's domestic politics and the roots of different national approaches to FTAs,* Australian Institute of International Affairs

Kennedy, Scott, 2005, *the Business of Lobbying in China*, Harvard University Press

Kennedy, Scott, 2009, *Comparing Formal and Informal Lobbying Practices in China: The Capital's Ambivalent Embrace of Capitalists*, China Information

Kinderman, D., 2008, *The Political Economy of Sectoral Exchange Rate Preferences: Germany From 1960-2008 and Beyond*, Review of International Political Economy 15 (5): 851-880

Kluger, Richard, 1977, *Simple Justice*, New York: Random House

Knight, S., 2010, *Divested Interests: Globalization and the New Politics of Exchange Rates,* Business and Politics, 12(2): 1 – 30

Knowledge@Wharton, 2010, China's Interest Rate Regime: Paying a High Price for Cheap Credit, September 1, 2010, Available at: http://knowledge.wharton.upenn.edu/article/chinas-interest-rate-regime-paying-a-high-price-for-cheap-credit/

Knowledge@Wharton, 2010, *China's Burgeoning Foreign Reserves: Too Much of a Good Thing*, June 23, 2010, Available at: http://knowledge.wharton.upenn.edu/article/chinas-burgeoning-foreign-reserves-too-much-of-a-good-thing/

Lake, D. 199. *Powerful pacifists.* American Political Science Review, 86, 24-37.

Lampton, D. M. 1992. *A plum for a peach. In K. G. Lieberthal & D. M. Lampton (Eds.), Bureaucracy, politics, and decision making in post-Mao China (pp. 33-58).* Berkeley: University of California Press.

Lan, Y., 2006, *Equilibrium Exchange Rates and Currency Forecasts: A Big Mac Perspective,* International Economics and Finance Journal 1: 291-311

Lieberthal, K., & Oksenberg, M. 1988. *Policy making in China.* Princeton, NJ: Princeton University Press.

Liew, Leong H., & Harry X. Wu. 2007. *The making of China's exchange rate policy: from plan to WTO entry,* Cheltenham UK: Edward Elgar Publishing, Inc.

Liu, Li-Gang & Laurent L. Pauwels. 2012. *Do external political pressures affect the Renminbi exchange rate?,* Journal of International Money and Finance 31: 1800 -1818

Manova, Kalina & Zhihong Yu, 2013, *Firms and credit constraints along the global value chain: Processing trade in China*, NBER Working Paper

Mansfield, E.D., & H.V. Miler, (2010), *Regime Type, Veto Points and Preferential Trade Agreements*, Working Paper

Mathieson, D., and L. Rojas-Suarez,1993, Liberalization of the Capital Account: Experiences and Issues. Washington, DC: IMF

Maxfield, Sylvia. 1997. *Gatekeepers of Growth.* Princeton Univ. Press

Mayer. F., (1998), *Interpreting NAFTA*, Columbia University Press

McKay, Amy, 2012, *Negative Lobbying and Policy Outcomes,* American Politics Research 40(1): 116-146.

Mertha, A. 2009. *Fragmented authoritarianism 2.0.* China Quarterly, 200, 995-1012.

Murphy, Melissa & Wen Jin Yuan, 2009, *Is China Ready to Challenge the Dollar?—Internationalization of the Renminbi and its Implications for the United States*, A Report of CSIS Freeman Chair in China Studies, Center for Strategic and International Studies

Naughton, Barry, 1999, *China: domestic restructuring and a new role in Asia,* in T.J. Pempel (ed.) The Politics of the Asian Economic Crisis, Ithaca, NY: Cornell University Press

Nownes, Anthony J., and Patricia Freeman, 1998, *Interest Group Activity in the States,* Journal of Politics 60(1): 86-112.

Olson, Mancur. 1965. *The Logic of Collective Action.* Cambridge: Harvard University Press.

Olson, Mancur, 1982, *The Rise and Decline of Nations,* Yale University Press

Ong, L. L.,1997, *Burgernomics: the Economics of the Big Mac Standard,* Journal of International Money and Finance 16: 865-78.

Ong, L. L.,1998a, *Burgernomics and the ASEAN Currency Crisis,* Journal of the Australian Society of Security Analysts 1: 15-16.

Ong, L. L., 1998b, *Big Mac and Wages to Go, Please: Comparing the Purchasing Power of Earnings around the World,* Australian Journal of Labour Economics 2: 53-68.

Reinhart, Carmen M, and Vincent R. Reinhart. 1998. *Some Lessons for Policy Makers who Deal with the Mixed Blessing of Capital Inflows. In Capital Flows and Financial Crises,* edited by Miles Kahler. Manchester: Council of Foreign Relations.

Rodrik, Dani. 2006. *"Social Cost of Foreign Exchange Reserves."* International Economic Journal 20: 253-266.

Rogowski, Ronald, 1987, *Political Cleavages and Changing Exposure to Trade*, The American Political Science Review, Vol. 81, No. 4., pp. 1121-1137

Shih, V., 2008, *Factions and finance in China.* Cambridge, UK: Cambridge University Press.

Singer, David A.,2010, *Migrant Remittances and Exchange Rate Regimes in the Developing World.* American Political Science Review 104(2): 307-323.

Sorauf, Frank J, 1976, *The Wall of Separation: The Constitutional Politics of Church and State,* Princeton: Princeton University Press

Steinberg, David, 2012, *A Conditional Preference Theory of Undervalued Exchange Rates,* Working Proposal presented at the 2012 ISA conference, and the 2011 IPES conference.

Steinberg, David, 2012, *Interest Group Influence in Authoritarian States: The Political Determinants of Chinese Exchange Rate Policy,* Comparative Political Studies, March, 2012

Steinberg, David, Forthcoming. *The Politics of Foreign Reserve Accumulation in China*, in *The Politics of China's International Monetary Relations*, edited by Eric Helleiner and Jonathan Kirshner. Ithaca: Cornell University Press.

Stiglitz, J.E., 2002. Globalization and Its Discontents. W.W. Norton, New York.

Vose, Clement, 1959, *Caucasians Only,* Berkeley: University of California Press

Wang, H., 2003, *China's exchange rate policy in the aftermath of the Asian financial crisis.* In J. Kirshner (Ed.), Monetary orders (pp. 153-171). Ithaca, NY: Cornell University Press

World Bank., 2013, *Indicators database*. Retrieved from http://data.worldbank.org/indicator

World Bank., 2010, *World Development Indicators database*. Retrieved from

http://databank.worldbank.org

Wright, L., 2009, *The Elusive Price for Stability* (Unpublished doctoral Dissertation), George Washington University, Washington DC.

Yuan, Wen Jin, 2012, *China's Export Lobbying Groups and the Politics of the Renminbi*, Freeman Briefing Report, the Center for Strategic and International Studies, February 2012

Yue, Jian Yong, 2002, *Analysis of the Difficulties State-Owned Enterprises Face with Respect to Exports and the RMB Exchange Rate*, Modern China Studies, Available Online at: http://www.modernchinastudies.org/us/issues/past-issues/76-mcs-2002-issue-1/1218-2012-01-06-08-38-50.html

Zhang, Wenjie, 2013, The Impact of US Political Pressure on the RMB Exchange Rate, LUX, volume 3, issue 1, Available Online at: http://scholarship.claremont.edu/cgi/viewcontent.cgi?article=1049&context=lux